

About Our CONTRIBUTORS

PHILIP SHERIDAN HALEY (Ph. C., 1909; D.D.S., 1914, both from the College of Physicians and Surgeons, San Francisco) writes on the subject of thermoplastic materials in this issue. His previous article in THE DIGEST ON ARTIFICIAL RESTORATION OF GINGIVAL TISSUES appeared in March, 1937.

DONALD C. PADELFORD, D.D.S. (University of Buffalo, 1921) published in THE DENTAL DIGEST in October, 1936: CONSTRUCTION OF AN ACCURATE COUNTER DIE.

WILLIAM A. COLBURN, D.D.S. has written for this magazine several times, the last in collaboration with Mario F. Arata in June of this year on FUNCTIONAL ARRANGEMENT OF ARTIFICIAL TEETH FROM STONE PATHS. His present collaborator, Leonard Frank, is one of the foremost roentgenologists in the country whose article, A LONG DISTANCE AND LOW PENETRATION TECHNIQUE FOR DENTAL X-RAY UNITS, was published in these pages in March, 1938.

LOUIS I. GROSSMAN, D.D.S. (University of Pennsylvania, 1923), Dr. Med. Dent. (University of Rostock, 1928) is the author of numerous articles dealing with the problems and methods of root canal therapy; he is the translator and editor of Fischer's LOCAL ANESTHESIA IN DENTISTRY, and a contributor to CYCLOPEDIA OF MEDICINE. Doctor Grossman has been engaged in research since 1925 at the University of Pennsylvania, primarily on the subject of apical infection. In his general practice, he emphasizes root canal therapy. In March of this year THE DENTAL DIGEST adapted and published an outline of an article by Doctor Grossman on the causes and treatment of hypersensitive dentine.

ROBERT W. LOWE received his D.D.S. at George Washington University in 1905. Doctor Lowe has a general practice.

LAWRENCE E. SPEAR, D.D.S. (University of Minnesota, 1927) first wrote for this magazine in June, 1933, on A NEW THERMOPLASTIC DENTURE TECHNIQUE. In May, 1935, he contributed A NEW TECHNIQUE FOR BOXING IMPRESSIONS. In his present article, Doctor Spear returns to the subject of thermoplastic denture materials.

BERNARD P. MORGENSTERN, D.D.S. (Columbia University School of Dentistry, 1922), B.S. (New York University, 1929), M.D. (Bellevue Hospital Medical College, 1932) has twice before written for this magazine: CALCIFICATION IN EXTERNAL MAXILLARY ARTERY, July, 1937; INCISION FOR DRAINAGE OF WELL CIRCUMSCRIBED ALVEOLAR ABSCESS, February, 1938.

GEORGE ALFRED MORGAN, L.D.S., D.D.S. (Royal College of Dental Surgeons, University of Toronto, 1930) contributes this month the second of three articles comprising the group which he read before the Buffalo Dental Academy on March 22, 1938. Doctor Morgan's description of DENTAL SURGICAL INCISIONS appeared in this magazine last month, at which time additional biographic information was published, and his article on THE IMPACTED MANDIBULAR THIRD MOLAR is scheduled to appear next month.

THE DENTAL DIGEST

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The Construction of Temporary Dentures

PHILIP S. HALEY, Ph.C., D.D.S., San Francisco

IT IS POSSIBLE and practical by the method to be outlined here to construct dentures by the simple process of painting acetone solutions of cellulose base materials on models. Not only may the baseplates for tooth retention be so made, but also the clasps, when two or more of the natural bicusps or molars remain (Figs. 1, 2, 3, and 4).

Equipment

The only additional equipment necessary is the following: acetone; two acetone solutions of base-plate material, and a screw-cap jar containing base-plate material softened to the consistency of firm, soft rubber. This additional base-plate material may be dispensed with entirely, but it is convenient when time is a factor,

because with its use the case may be built up in three days, whereas six days are required without it (Fig. 5).

Technique

The method considered here may be used for denture construction either before or following extraction. In the former case, it is only necessary to indent the areas corresponding to the tooth root location by paring the model material to a depth approximately comparable to the probable tissue destruction caused by extraction.

Inasmuch as the basic principle of the method is the use of pink thermoplastic material in either a liquid state or one of rubber-like consistency, the base-plate material may be applied to the model either in liquid

form with applicators (Fig. 6, B) or with a press. In the latter instance, the case must be flaked and four days allowed for the complete evaporation of acetone to take place. No heating is required here, however. The material is simply packed into place with well-washed fingers or with blunt instrument handles. The method I usually use is to paint liquids directly onto the model (Fig. 6, C).

A model is run and the solution applied at odd moments during the office day. There is no plaster mixing after this, no flaking or pressing. Little polishing is required as the denture has a glazed surface when dry.

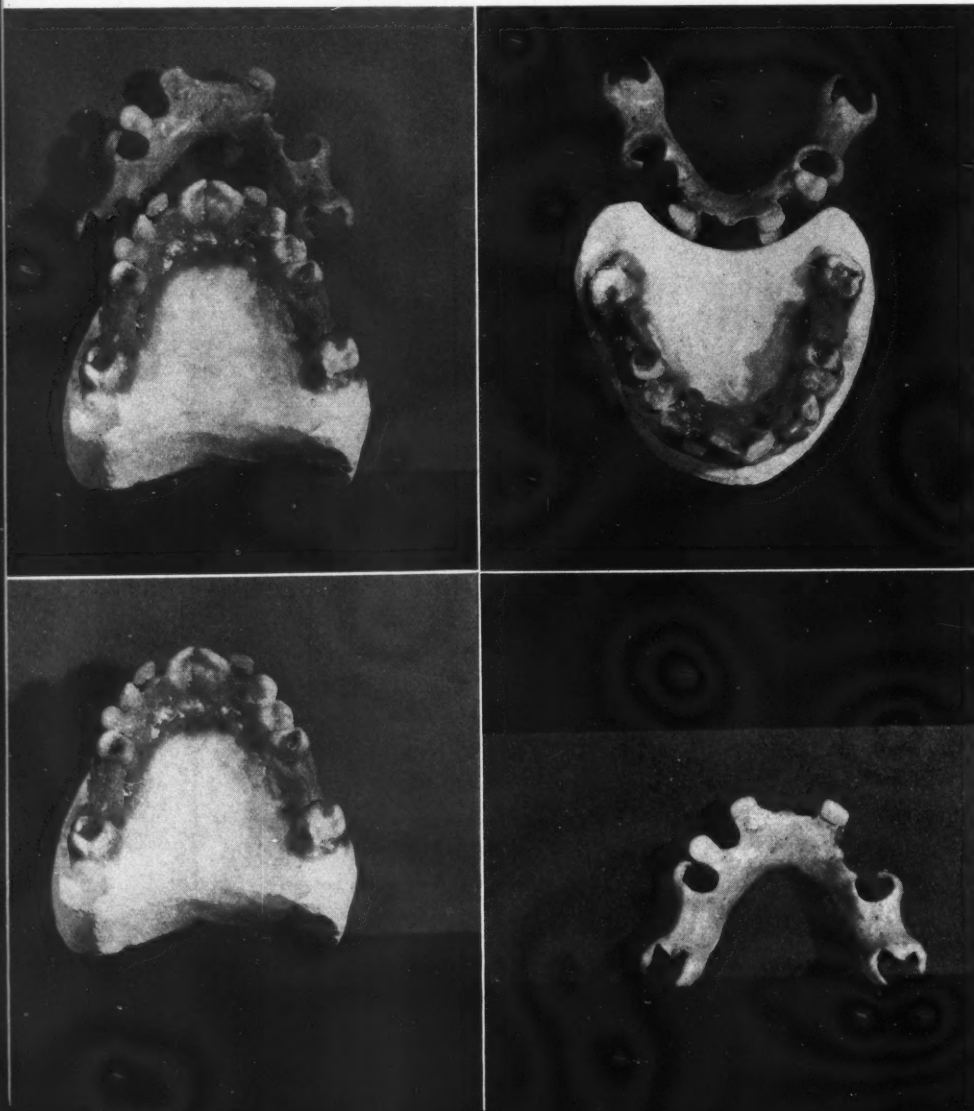
Preparation of Base-Plate Material—These preparations will be referred to as Preparations 1, 2, and 3.

Preparation 1: a) Any denture blank material of the cellulose or suitable thermoplastic type is used. These are cut into strips, 2 inches long and one-third inch each way in cross section.

b) Into an ordinary narrow-mouthed bottle of 6 ounce capacity, fitted with screw cap, four or five strips are now placed.

c) Acetone is poured into the bottle until the bottle is filled within one half inch of the constriction at the neck. This allows an air space for the necessary agitation of contents by occasional shaking. In about twenty-four hours a thick, cream-like fluid of pink denture base-plate color will be observed in the bottle. Proportions by weight are not given because the constant evaporation of acetone and variability in qualities of differing base-plate materials make it impossible to be specific.

d) When the solution becomes too thick as a result of the evaporation of acetone, it may be thinned by adding more acetone.



Figs. 1 (upper left), 2 (upper right), 3 (lower left), and 4 (lower right)—Baseplates and clasps made by painting acetone solutions of condensates on models.

Preparation 2: Preparation 2 is made by pouring half a bottle of Preparation 1 into another 6 ounce bottle and adding from 3 to 5 drops of carbol-fuchsin. When mixed, a fluid of deeper shade than that of Preparation 1 will be available for imitating the deeper pink or red shades of gums between the roots of the teeth and at the reflection of the mucosae.

Preparation 3: a) Into a glass jar of 2 ounce or 3 ounce capacity, fitted with screw cap, place four base-plate strips, first cutting them into eight pieces for ease of insertion.

b) Add 8 cc. acetone and allow to stand, tightly closed for 48 hours. The base-plate material will be found to be pliable, yet resistant under finger pressure.

c) If too soft, allow to stand for a few hours without the cap until the desired consistency is attained.

d) Fingers must be carefully washed before handling to prevent staining.

e) Wetting thumb and forefinger with clean water will facilitate handling.

Application to Model—1. A good model having been secured, pure acetone is painted over the portion to be covered with the denture. A small camel's hair brush may be used for this.

2. It is well to mark lightly upon the model the outline of the denture. Lead pencil is best for this. Indelible pencil may diffuse through the denture material.

3. Preparation 1 is next worked over this outline and between the teeth.

4. If clasps are to be made of the base-plate material, the appropriate teeth are also covered, including areas for rests. Metal clasps, if preferred, may be made in the usual manner, and the lugs will be firmly retained in the finished denture.

Two hardwood applicators, bound together with a rubber band, are the best instruments I have found for removing the material from the bottle, and working about the teeth (Fig. 6, B).

5. As the solution dries on the model, bubbles will occur. These are punctured with the applicators and pressed flat (Fig. 6, C).

6. When two or three applications of Preparation 1 have dried on the

model, pieces of Preparation 3 in suitable sizes may be cut with scissors and pressed into place (Figs. 1 and 2).

7. The teeth are ground and fitted into the edentulous spaces.

8. The pins of the teeth are covered with Preparation 1, and they are then fixed into position on the model with Preparation 3, finger pressure being used as required.

9. As drying proceeds the teeth migrate slightly from position (Fig. 2), and the teeth are pressed back again from time to time.

10. The case is from now on built up by simply applying Preparation 1 until the proper contour is reached.

11. Preparation 2 may now be used for final tinting as described. Proper tones are thus attained.

12. In from three to six days, according to whether or not Preparation 3 has been employed, the case may be removed from the model, as follows:

a) Both model and denture are im-

mersed in cold water for a few minutes to allow time for the plaster of Paris to soften.

b) The back of the mold is now cut into sections, carried well into the plaster until the sections may be separated by blows from a horn mallet.

c) Remove the denture; scrape away all plaster with points of instruments, and wash with scrubbing brush.

d) The edges of the case are next trimmed with scissors and files, and coated rapidly with acetone from one to three times until the edges are smooth.

13. Final finishing may be accomplished on a lathe, with pumice and water if desired, but care must be taken to use plenty of water; not to overheat, and to prevent lodgment of pumice grit into the denture. I have found it well to use white sandpaper discs on the dental engine for removing small lumps, and for finishing edges after filing is completed.

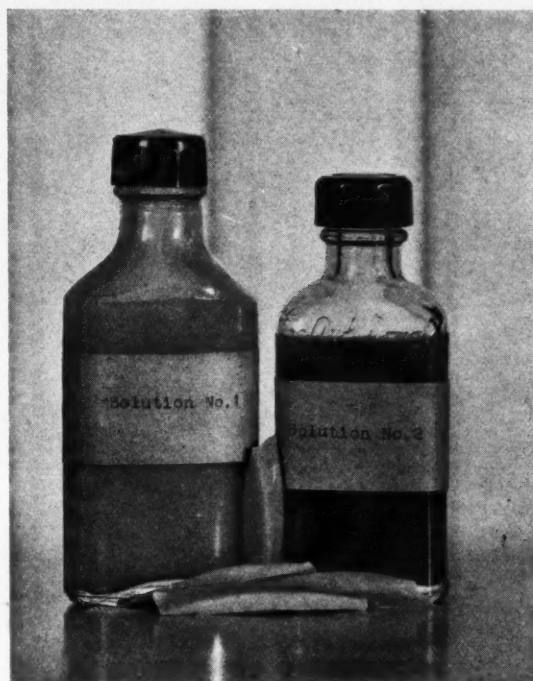


Fig. 5—Bottles of acetone solutions of base-plate materials.

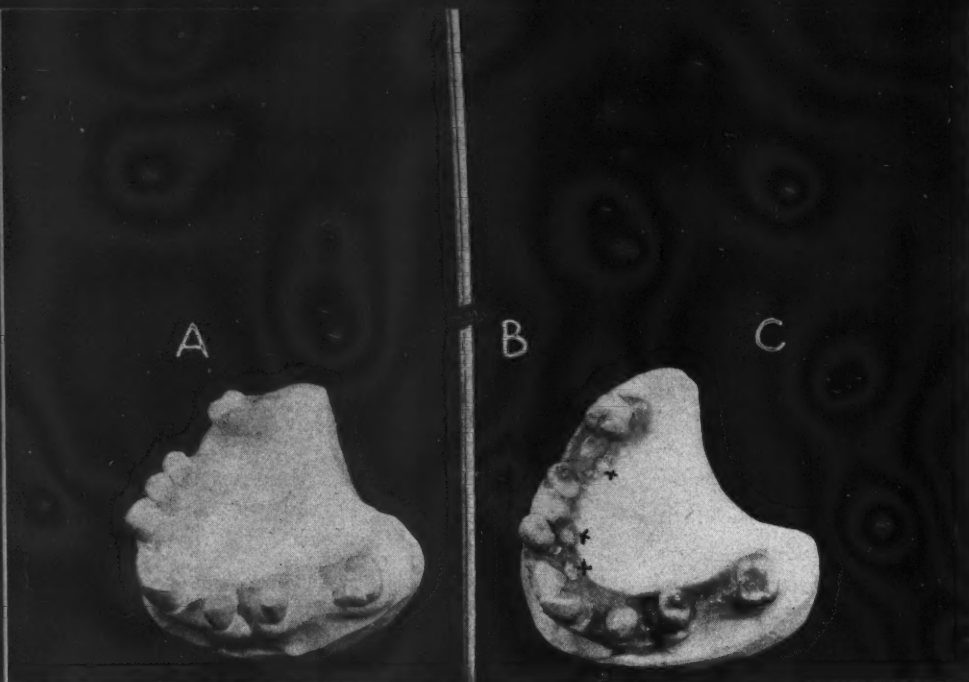


Fig. 6

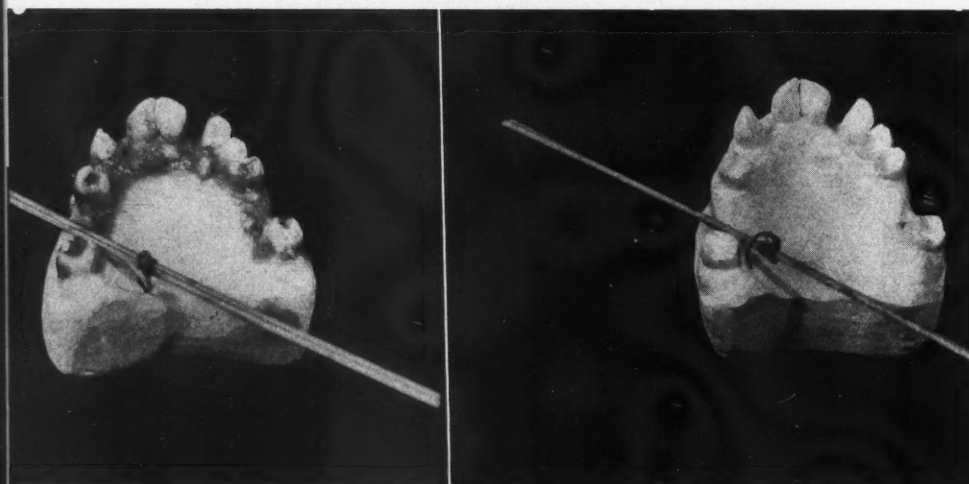


Fig. 7

Fig. 6—A, Plaster model; B, applicators bound with rubber band; C, acetone solution of pink base-plate material painted on model. Crosses indicate points at which bubbles were punctured and material pressed flat with applicators.

Fig. 7—Relative sizes of applicators to models, interdental and edentulous spaces.

Wherever rough surfaces are found, after the use of discs, glazing may be secured by light coating with acetone.

14. When dentures are thus made, they should be held on the model for a full week, and the palatal portion held from contracting by lead weights of a pound or more.

15. Such dentures should be removed from the model and finished just prior to the arrival of the patient.

16. The denture may then be postdammed in the mouth with Preparation 1, care being taken to remove it within 10 seconds to prevent blistering membranes.

17. The denture is then placed in cold water for about 30 seconds and pressed into place in the mouth. This is repeated, if required, three or four times until postdamming is complete.

18. Teeth broken from the denture may be easily replaced by using Preparation 3 with finger pressure.

Shreve Building.

Copper Bands in Construction of Porcelain Jacket Crowns

DONALD C. PADELFORD, D.D.S., Rochester, New York

Too much emphasis cannot be placed on the necessity for an absolutely accurate impression of the stump of a tooth to be crowned with porcelain.

Technique

1. After the enamel has been removed from the tooth and before the shoulder has been cut, a band should be selected to fit, or to be made to fit, snugly around the neck of the tooth, 1.5 mm. below the gum line. This presupposes the position of the shoulder to be 1 mm. below the gum line, and places the gingival rim of the band 0.5 mm. below this shoulder (Fig. 1). This band should be no thicker than 30 gauge copper and should preferably be unannealed. The band is trimmed to fit the gingiva so that it may be placed over the stump and under the free margin of the gingiva without injuring periodontal fibers.

2. Any burrs turned up by trimming are removed.

SHOULDER TO BE
ONE MM. BELOW GUM LINE
BAND 1.5 MM. BELOW
GUM LINE

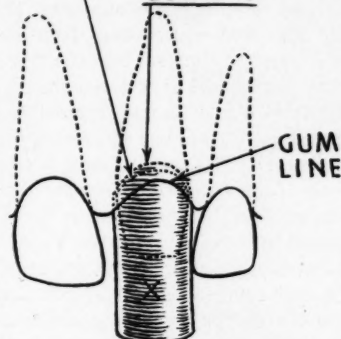


Fig. 1—Relationships between position of shoulder to gum line, and gingival rim of band to shoulder.

3. The labial surface of the band should be marked with an identifying cross, and a line drawn to indicate the level of the free margin of the gums, labially and lingually (Fig. 2).

4. Stick compound is heated over a flame until it is entirely soft. Do not overheat the compound, but have a fine smooth surface which will produce the best impression. Heat slowly for best results, never bringing the compound into the open flame.

5. Place this compound in the band from the incisal end of the band, allowing it to come within 0.5 mm. of the gingival end.

6. Lubricate the stump and gently force the band to place, being guided by the labial and lingual line to show the depth necessary to insert the band into proper position.

7. With the first finger and thumb of the left hand, hold the band in position on the stump and force compound into it from the incisal end (Fig. 3). Hold in this position for three minutes, allowing compound to chill itself.

(Continued on page 376)

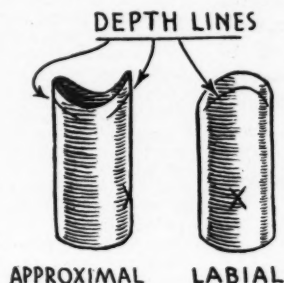


Fig. 2

Fig. 2—Correct depth lines of band which are alike on lingual and labial. They mark the level of free margin of gums; cross represents labial surface; marks insure position of band.

Fig. 3—Band held in position on stump by first finger and thumb of left hand; compound forced into band from incisal end with right thumb.

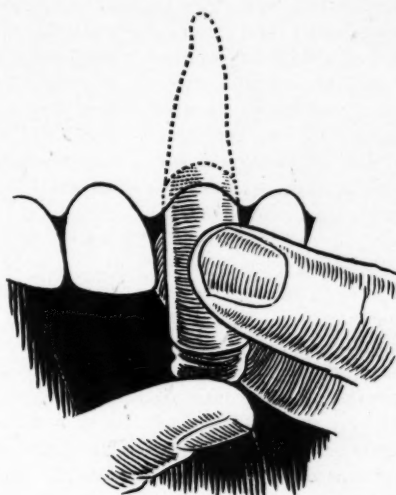


Fig. 3

Impression, Outlining, and Retention Technique for Ideal Mandibular Dentures

WILLIAM A. COLBURN, D.D.S. and LEONARD FRANK, San Francisco

WITHOUT RECOMMENDING an impression technique, but aided by dissections, MacMillan,¹ in 1936, demonstrated "that mandibular dentures could be extended to far greater limits, especially in the sublingual space, and that the proper approach to such a study should be from the standpoint of myology, not osteology." MacMillan's scientific solution of mandibular denture outlining has been overlooked by prosthodontists probably because of its anatomic background. His dissections to show the relation of the structures at rest within the mouth proves most of the present-day techniques to be inadequate, if not obsolete. To be more explicit, the conventional mandibular impression techniques, which utilize the erroneous principles of compression, over-extension, muscle-trimming, washing and outlining from stereotyped dry specimens of mandibular bones, invariably produce mediocre dentures. Ideal cases are rarely recognized, and the denture bases are generally from one-fourth to one-third less in area than the tissue it is intended to cover (Fig. 1). True, this overlooked and omitted base area may not always be essential for comfort, but its omission surely means just that difference between actual retention and no retention. Furthermore, the conventional systems of impression-taking, owing to their complications, invariably omit the sublingual space and the retromolar fossae, which are the natural mechanical retention areas of a mandibular denture, and not the "mysterious" compression theory or the commercialized "washes."

Excellent retention can be obtained by first reproducing the tissues at rest in the sublingual space and retromolar fossae and utilizing the natural locks or undercuts of this region (Fig.

2). The denture will withstand as much or more pressure on the anterior teeth, without dislodging, as it is possible to exert on natural teeth without pain. It is obvious, then, that an improved impression technique would be one that enables the tissues to be reproduced at rest. According to MacMillan, it is almost impossible to reproduce the tissues at rest; nevertheless, experience with such a technique for more than seven years, proves that this principle is far superior to the complicated conventional methods for retention, stability, and comfort. An ideal rest position of the soft tissue may not be absolutely necessary inasmuch as the functional position of most denture flanges, especially those placed in the sublingual space and retromolar fossae, are generally located from 1 mm. to 3 mm. short of the reflection of the soft tissue which it is possible to get with soft plaster.

Other favorable factors are: the simplicity of adjustment when the flanges are over-extended, and the tendency of the soft tissue to stretch or yield to continued intermittent pressure. Fortunately, instead of the need for complicated technique, the problem of ideal mandibular impressions can be simplified into two basic steps: (1) reproduction of the mouth tissue at rest with a soft impression material, and (2) an outline of the case from 1 mm. to 3 mm. short of the tissue reflections.

Technique

Primary Impression—A primary modeling compound (heated to 120° F.) impression is advised as an aid in understanding the bone formation and in demonstrating the position of the right angle of the floor of the mouth. The impression should include the sublingual space and the retromolar fossae (Fig. 3).

Outlining and Tray-Fitting Cast—A plaster cast from a primary im-

pression is made as an aid in outlining and tray-fitting (Fig. 4). The tray should be from three-sixteenths to one-fourth inch larger all around, the ends turned up at the retromolar pads, and lingual extensions of Kerr utility wax added to keep the tongue

Fig. 1—A, Denture base from a muscle-trimmed modeling compound impression. This denture and five others by this technique were complete failures, both as to comfort and retention. B, Baseplate from a plaster impression of the same mouth, taken by T. A. Vogel, D.D.S., San Francisco. The denture was successful.

Fig. 2—Mandibular cast and baseplate of an ideal case. The denture can withstand, without unseating, all the cantilever pressure on the anterior teeth which it is possible to exert, without pain, on an edentulous ridge or natural teeth. The undercuts in the sublingual space and retromolar fossae form such mechanical retention that it would be necessary to fracture the base material, at least on one side, before the denture could be dislodged. The denture outline is shown by the heavy black line. Lines radiating from this outline are intended to draw attention to the reflection of the soft tissues. Important as this area is in recognizing ideal or favorable cases, it is, nevertheless, omitted in the conventional techniques.

Fig. 3—Mandibular primary modeling compound impression, the purpose of which is to get an accurate reproduction of the mandible, an over-extension of the sublingual space, the retromolar fossae, and the right angle of the mouth floor. This additional step in the technique is intended only as an aid in outlining the master cast and to secure a tray-fitting model.

Fig. 4—Cast made from primary compound impression. Used as an aid in tray-fitting and outlining.

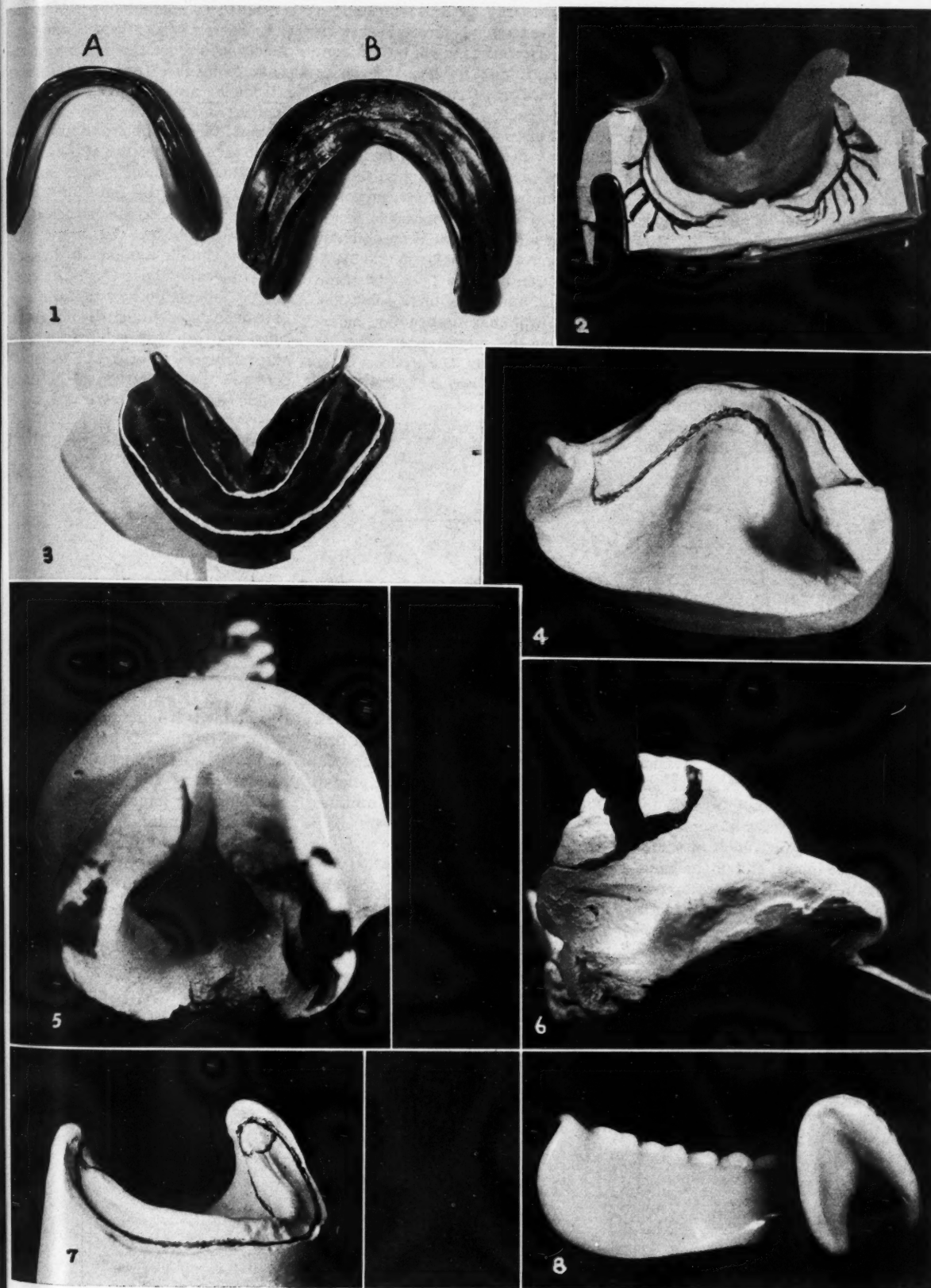
Fig. 5—Ideal mandibular impression, reproducing part of the tongue and other tissues of the mouth at rest. A denture made from such an impression had more retention than it is ever possible to attain on the maxilla.

Fig. 6—Right lingual flange of impression shown in Fig. 5. Accurate reproduction of the sublingual space in rest position (anatomic retention area).

Fig. 7—Master cast outlined and beaded for retention.

Fig. 8—A favorable mandibular denture showing retentive extensions of the lingual flanges into the sublingual spaces. Loss of retention is sure to follow a reduction of the lingual flanges toward the mylohyoid ridge inasmuch as the tongue will then lift the denture instead of pressing it against the anatomic undercuts of the mandible.

¹MacMillan, H. W.: Anatomy of the Throat, Mylohyoid Region and Mandible in Relation to Retention of Mandibular Artificial Dentures, J.A.D.A. 23:1435 (August) 1936.



from interfering. Kerr numbers 11A and 13A, lower trays, with a little swaging, can be made to fit accurately enough to take almost any mandibular impression. Tight-fitting trays are not indicated as it is necessary to have a bulk of soft material to reproduce the tissue at their rest position.

Master Impression—Most of the master impression is accomplished before the tray is inserted into the mouth; therefore, the plaster that is placed on the tray will aid only in completing and then removing the finished impression. The bulk of the impression material is placed, with the fingers or spatula, in the retromolar fossae, the sublingual space, floor of the mouth, buccal and labial areas, leaving only a little of the labial ridge to act as a guide in cen-

tering the tray as it is vibrated to place. The tongue is forced back with the fingers, so that it will be out from under the lingual flanges; the cheeks and lips are pressed outward and then brought back to expel or release trapped air, and the patient's jaw is closed as near the rest position as possible. One or both lingual flanges should be fractured before removal is attempted, as it is impossible to remove ideal or favorable mandibular impressions *in toto* (Figs. 5 and 6).

Master Mandibular Cast—The final outlining and additional retention, the Colburn² chamfer beading, is perfected on the master cast (Fig. 7). Observe carefully the reflection of the tissue as shown by the primary

²Colburn, W. A.: Negative Impression Technique and Cast Beading, DENTAL DIGEST, 39:435 (November) 1933.

stretched compound impression and cast; sketch with a pencil the peripheral outline for the denture on the mandibular case from retromolar to retromolar areas, placing the buccal flanges from 1 mm. to 2 mm. over the edge of the mandible and the labial at the turn or reflection of the tissues, and below any labial convex surface. The outline of the anterior lingual third can be placed at the turn of the tissues and below the mandibular tori; the middle lingual third from 1 mm. to 3 mm. above the right angle of the mouth floor; then the outline is continued under the mylohyoid ridge and into the sublingual space and retromolar fossae. The outline is ended at the reflections of the tissue in this region (Figs. 2, 4, and 7).

450 Sutter Street.

COPPER BANDS IN CONSTRUCTION OF PORCELAIN JACKET CROWNS

(Continued from page 373)

8. Remove and lay aside until shoulder has been cut.

9. Reheat the impression (which was started before the shoulder was cut) in hot water not to exceed 150 degrees. Add an excess of compound of at least one-fourth inch in thickness over the incisal end of the band.

10. Again lubricate the stump and replace the impression on the tooth, checking the labial and lingual depth lines to insure the band being in po-

sition on the tooth. Hold with the left hand in this position, and with firm pressure, force the excess compound against the stump from the incisal (Fig. 3). Again hold for three minutes and remove.

Advantages

The method described here of taking an impression of the tooth to be crowned affords a well guided process by which an accurate impression can

be obtained. It eliminates the possibility of having the band strike the shoulder in any particular spot, thereby preventing the compound from making a poor impression. This technique also eliminates the chance of having an impression that may be out of line. It has proved successful in my hands, and although it takes a little longer to do, its positive technique makes for better results.

906 Medical Arts Building.

Bacteriologic Examination in Root Canal Therapy

LOUIS I. GROSSMAN, D.D.S., Dr. Med. Dent., Philadelphia



Fig. 1—A glass slide is washed thoroughly with soap and water, then with alcohol. The excess alcohol is burned off, and the slide is placed on the operating tray.

(The temporary filling is removed and discarded. The dressing is removed from the root canal, and, if it appears to be unstained, it is placed upon the prepared microscope slide.)

Fig. 2—The dressing is held with cotton tweezers and smeared across the glass slide so as to leave a thin, even deposit.

Fig. 3—The deposit from the dressing is allowed to dry in the air. This may take from a few seconds to a minute.

Fig. 4—The bacteria are fixed on this slide by passing the slide over a Bunsen or alcohol flame three or four times, the smear side uppermost. The underside of the slide should be tolerably hot when placed against the back of the hand.

Fig. 5—The smear is stained with methylene blue for five minutes (or with gentian violet for two minutes, or with carbol fuchsin for one-half minute).

Fig. 6—After a period of from one-half minute to five minutes, depending on the thickness of the film and stain used, the excess stain is washed off by holding the slide under running tap water.

Fig. 7—The slide is dried by compressed air sprayed over the surface, or is blotted dry with an ordinary paper blotter.

Fig. 8—The slide is placed upon the stage of the microscope and a drop of cedar oil added.

Fig. 9—Microscopic examination is made with the oil immersion lens. Bacteria if present will appear as small coccal forms: (1) singly; (2) grouped in chains; (3) grouped in clusters; (4) occasionally as rod forms. Leukocytes (pus cells) may be seen either with or without bacteria and their presence is an indication that infection is still present and treatment should be continued. An occasional pus cell is not significant. In the absence of bacteria or a large number of pus cells, the root canal may be considered potentially sterile and ready for check-up by culture.

WHY A BACTERIOLOGIC EXAMINATION IS ADVOCATED

1. The only method by which to determine the sterility of root canals in pulpless teeth and the periapical tissues is by bacteriologic examination.¹ The smear method is not so sensitive as the culture method; it is often used as a guide to indicate whether the canal is ready for culturing.
2. It is futile to smell the canal dressing in order to determine sterility, because the micro-organisms present in periapical infections do not always cause a putrid odor.
3. A statistical study² strongly indicated that when a bacteriologic examination is not made before the root canal is filled, there is the likelihood in four out of ten cases that bacteria are still present.
4. When bacteria are present, they appear on microscopic examination of a smear as small coccid

forms, either singly or grouped in chains or in clusters; occasionally rod forms are seen, and often leukocytes (pus cells) with or without bacteria. The absence of bacteria indicates a potentially sterile root canal which is ready for check-up by culture.³

5. A negative culture is the best known indication that a tooth is ready for root canal filling, although it is not conclusive evidence that infection has been eliminated.
6. A positive culture is conclusive evidence that a root canal should not be filled. Any turbidity of the medium indicates growth of bacteria. Three successive positive cultures should condemn the tooth as a poor risk in which further root canal treatment is unwarranted.

¹Appleton, J. L. T.: A Note on the Clinical Value of Bacteriologically Controlling the Treatment of Periapical Infection, D. Cosmos, 74:798 (August) 1932. Bacteriologic Infection, ed. 2, Philadelphia, Lea & Febiger, 1933, p. 529.

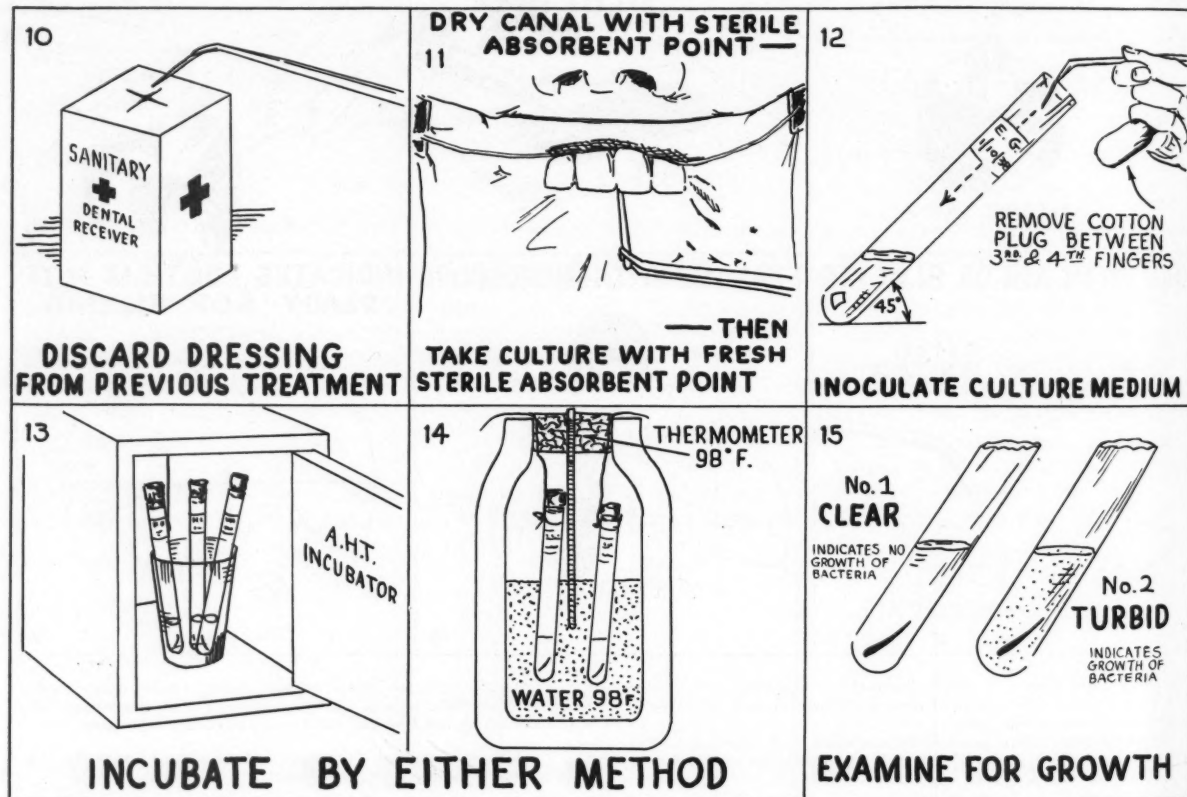
²Grossman, L. I.: Probable Percentage of Correct Guesses Re-

garding Sterility of Root Canals Without Bacteriological Control, J. D. Res. 15:364 (September) 1936.

³Culture medium may be obtained from a local hospital or clinical laboratory or a dental school. It is also available commercially.

⁴Appleton, J. L. T.: Bacteriological Control of the Treatment of Periapical Infection, D. Items Int. 49:589 (August) 1927.

Medical Arts Building.



THE CULTURE METHOD:

Fig. 10—The dressing from the canal which would ordinarily be used for a smear is discarded if, because of lack of facilities, a smear is not to be made.

Fig. 11—A fresh, sterile absorbent point is inserted into the canal to clean the surface of the canal of any traces of medicament. This absorbent point is discarded, and a fresh, sterile absorbent point is inserted to the apex of the tooth and allowed to remain there for a minute.

Fig. 12—The absorbent point is then removed, and, if its tip is moist, is dropped into a tube of culture medium. If the absorbent point comes out dry, a drop or two of culture medium is carried into the canal, with precautions for sterility, to supply the needed moisture.

(Hormone broth, Rosenow's glucose-brain broth, Rosenow's liver broth or glucose ascites broth is a satisfactory culture medium.)

(a) In preparing the culture tube for reception of the absorbent

point, the cotton plug is removed with a rotary motion and the lip of the tube flamed. (b) The tube itself is held at an angle of about 45 degrees to prevent contamination from air. (c) When the absorbent point has been dropped into the culture medium, the cotton plug is replaced.

If the absorbent point adheres to the wall of the culture tube without dropping down into the medium: (1) Tap the side of the tube with the finger carefully but sharply; (2) try to float the absorbent point by slowly tilting the tube so that when the culture medium comes in contact with the point, righting the tube suddenly will carry the point down with the liquid medium; (3) as a last resort, cotton pliers should be sterilized by flaming with alcohol three or four times, then inserted into the tube to push or carry the point down into the medium.

Fig. 13—The culture tube, properly labeled, should then be incubated for at least forty-eight hours.

Fig. 14—If a thermostatically controlled incubator is not available a thermos bottle may be substituted. A full description of this method is given by Appleton.¹

Fig. 15—After forty-eight hours, the culture tube is examined for sterility. If the culture is sterile, no visible change in the appearance of the medium will have occurred. Any turbidity of the medium, when its appearance is compared with that of an unused sterile culture tube which is held alongside of it, is indicative of growth of bacteria. In case of doubt, a loopful of culture medium is transferred to a clean glass slide and a smear is made. The presence of bacteria in this smear indicates a positive culture.

If either smear or culture shows the presence of bacteria, treatment should be continued until a negative smear or culture is obtained; or the advisability of further treatment is reconsidered.

AMERICAN DENTAL ASSOCIATION

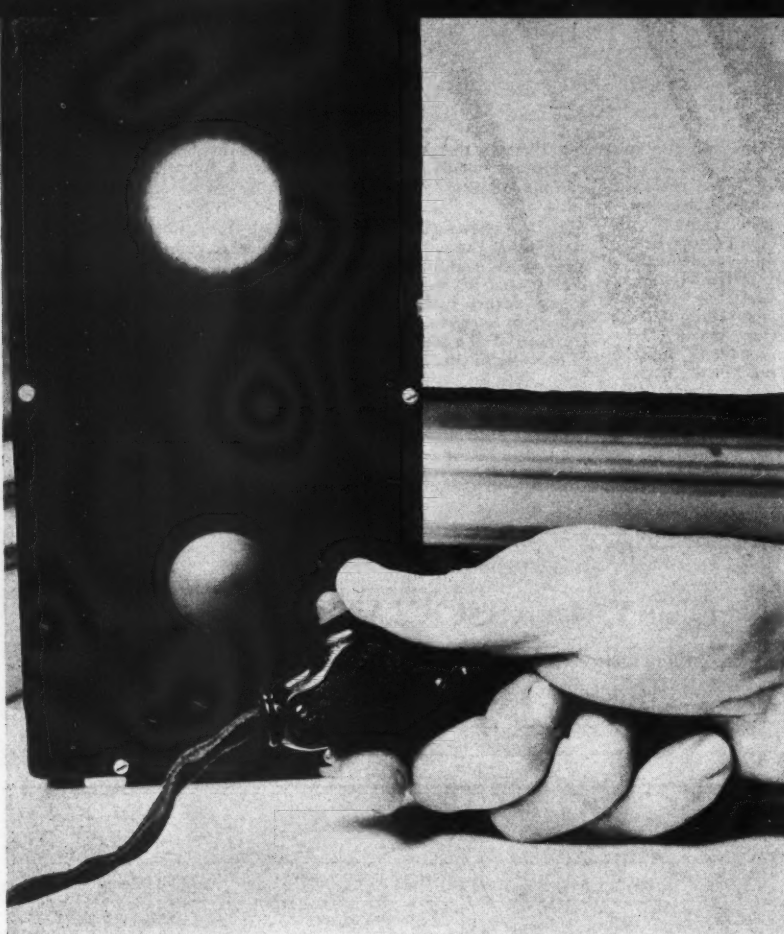
Eightieth Annual Session

HOTEL STATLER, St. Louis, Missouri

October 24, 25, 26, 27, 28, 1938

MEETINGS OF ASSOCIATED GROUPS

NAME	PLACE	DATE
American Academy of Restorative Dentistry	Jefferson Hotel	October 22-23
American Society of Oral Surgeons and Exodontists	Jefferson Hotel	October 20-21-22
National Association of Dental Examiners	Hotel Statler	October 22-23
American College of Dentists	Hotel Statler	October 23
American Association of Dental Editors	Hotel Statler	October 22
American Society for the Promotion of Dentistry for Children	Jefferson Hotel	October 24
American Full Denture Society	Jefferson Hotel	October 22-23
American Association of Women Dentists	Hotel Statler	October 24
Association of Military Dental Surgeons	Hotel Statler	October 25
National Society of Denture Prosthetists	Jefferson Hotel	October 17-22
Annual A.D.A. Mouth Hygiene Luncheon	Hotel Statler	October 26
Mouth Hygiene Workers' Breakfast	Hotel Statler	October 25
American Association of Public Health Dentists	Hotel Statler	October 23-24
Advisory Board for Dental Specialties	Hotel Statler	October 24
American Dental Assistants' Associations	DeSoto Hotel	October 24-28
American Dental Hygienists' Association	Claridge Hotel	October 24-28
American Academy of Periodontology	Coronado Hotel	October 20-22
Pan-American Odontological Association	Hotel Statler	October 24
Research Commission of the A.D.A.	Hotel Statler	October 23
International College of Dentists	Jefferson Hotel	October 23
American Dental Golf Association	Hotel Statler	October 23
American Dental Trapshooters League	St. Louis Gun Club	October 24



A Stop Signal for the Child Patient

ROBERT W. LOWE, D.D.S.,
Holyoke, Massachusetts

FEAR OF THE DENTAL BUR is not innate but seems to be inculcated in almost every child, mildly in some cases and troublesomely in others. The dentist must also sometimes contend with stubborn youngsters. The frightened child and the recalcitrant child cause loss of time and "burred" nerves. I sought a device, therefore, which would be efficient in calming vexatious youngsters. Such a device had to attract and hold the interest. It had to be something in which the child patient could participate and thus help him endure the operation without a fuss. After numerous unsuccessful experiments, I at last designed a gadget that has seemed to fill the purpose admirably.

Fashioned after its Main Street prototype, I constructed a miniature stop-and-go signal, controlled by a thumb switch at the end of about 8 feet of electric cord. The signal was hung directly in front of the dental chair in line with the patient's vision. The cord with the switch (Fig. 1) runs from the light along the arm of the chair into a comfortable operating position (Fig. 2). With the switch in hand, the young patient is instructed to turn on the green light, and when the drilling (or excavating) begins to hurt to snap on the red. Thus even before the actual operation gets under way, the youngster is assured of a quick cessation of pain the instant he throws on the red. The dentist, himself, although out of sight of the light, is able to interpret the

(Continued on page 385)



Fig. 1 (top)—Signal light, cord, and switch.

Fig. 2 (bottom)—Patient holds the switch ready to turn on the red light, signaling pain.

Thermoplastic Materials in Orthodontia

LAWRENCE E. SPEAR, D.D.S., Minneapolis

THIS ARTICLE IS chiefly concerned with basic principles of technique in the use of thermoplastic materials in treating orthodontia cases. Extensive orthodontic treatment with prolonged retention of appliances has resulted in a great deal of harm. Areas of stasis are created with resultant breakdown of tooth structure. The benefit from such orthodontic treatment is negligible. Treatment of cases with little if any use of bands seems highly desirable from the standpoints of oral health and appearance. The use of thermoplastic materials, with metal auxiliaries when indicated, makes this possible.

Uses

1. A high percentage of cases call for increase of arch width in bicuspid and molar regions. The simple palatal thermoplastic piece, expanded gradually from time to time, serves well for this purpose. It does remarkably well even when worn only at night.

2. The ease with which metal devices of any description can be securely attached to the thermoplastic foundation makes possible numerous combinations and designs for special purposes:

a) There are times when the re-

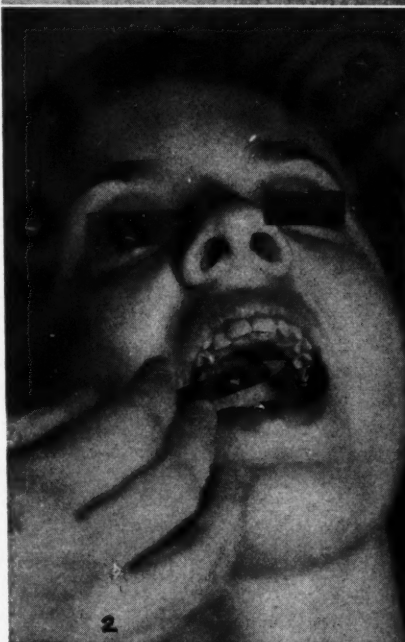
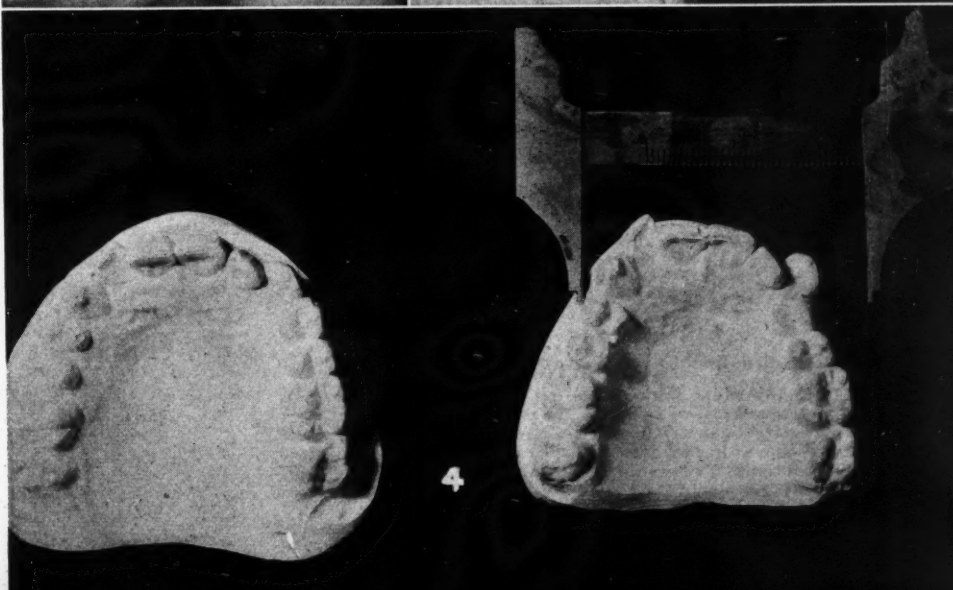


Fig. 1—Simple palatal pieces molded in hot oil to thickness of number 7 base-plate wax¹.

Fig. 2—Simple palatal piece fitted to mouth and marked with a lead pencil preparatory to changing dimensions. Mark is made opposite tooth to be moved. Second bicuspid will be moved buccally.

Fig. 3—Appliance is removed from mouth and adjusted. Instrument is passed through a Bunsen burner and heated sufficiently. Then appliance is dipped in water to moisten. Heated platten pliers draw material out slightly and while still being gripped with pliers, both pliers and material are passed under running water a moment to set at new dimensions. Note: 0.5 mm. is sufficient change at one time and beginners will invariably exceed this amount, necessitating filing to get appliance back into patient's mouth.

Fig. 4—Lateral width can be speedily increased and perfectly sustained with the use of the thermoplastic expander. Bands are not needed. The interval between construction of these casts is only four months.



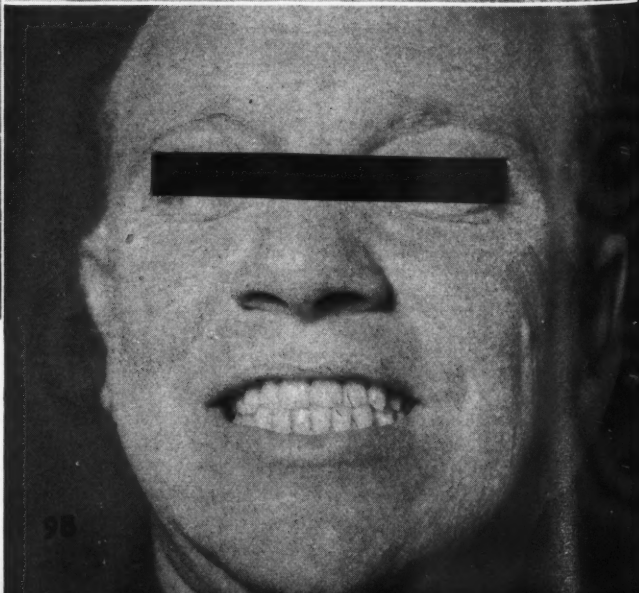
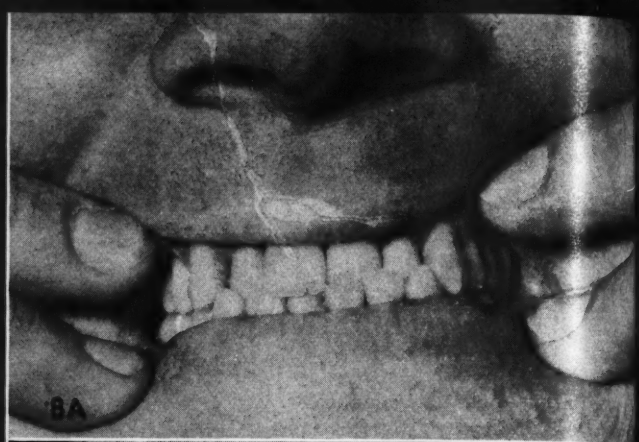
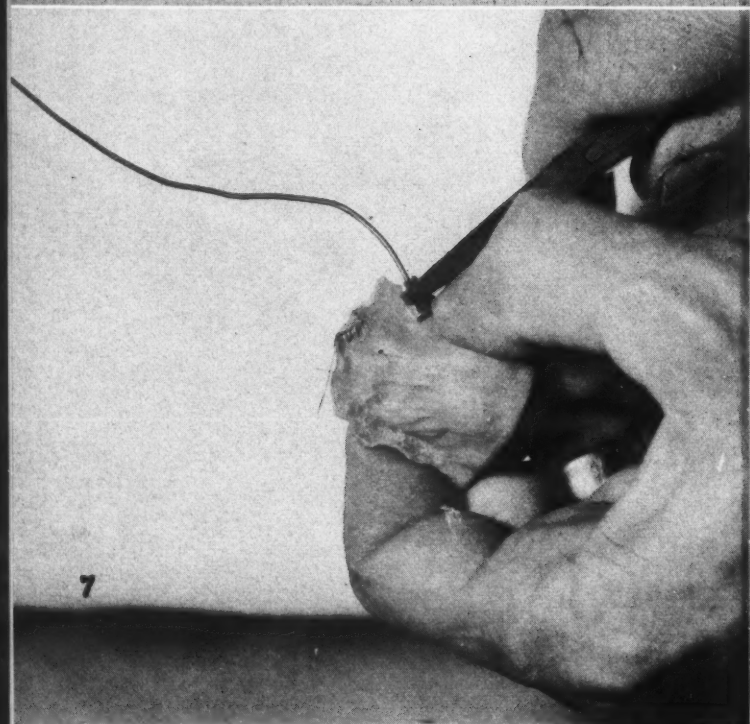
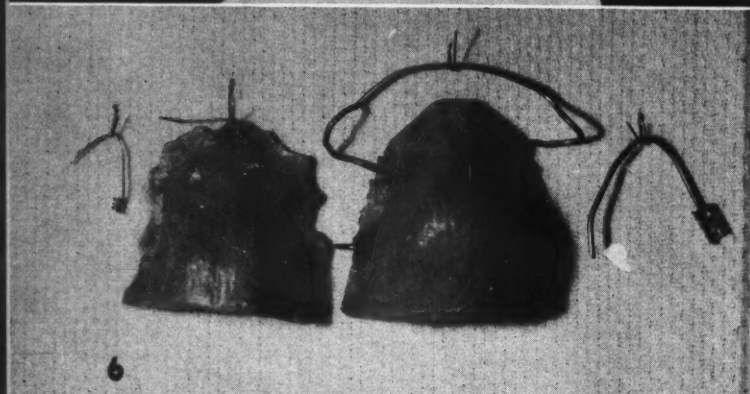


Fig. 5—Photograph of patient whose casts are shown in Fig. 4.

Fig. 6—At left a section of coiled spring is made ready. Left palatal appliance has coil embedded and end protruding. At right a piece of 19 gauge arch wire is soldered to a piece of 30 gauge metal clip with sides bent up and in to facilitate locking in of thermoplastic material. Right palatal piece has metal pieces locked in position.

Fig. 7—Embedding a metal clip carrying a piece of arch wire into thermoplastic material. One nose of pliers is heated; the other is cold. The heated nose is applied to metal clip, which sinks into thermoplastic material as heat softens it. Running water sets material quickly, and clip is securely locked in place.

Figs. 8 and 9—One type of case which can be treated without the use of bands at any time during treatment. Fig. 8, A shows lingual occlusion of three anteriors in patient, aged 35; B, one month after treatment was instituted. Thermoplastic appliance is in position in mouth. In addition to this there are cast silver bite blocks on lower left and right first molars. In Fig. 9, A, upper appliance is in mouth. There is no lower appliance. Upper teeth are now in labial occlusion. Fig. 9, B, appearance four months later, one month after removal of appliance. Result accomplished in five months' treatment.

traction of a cuspid which is out of line and general realinement of the upper arch can be accomplished with only the palatal piece and a finger-spring quickly attached on it.

b) The retraction of all the anteriors can be nicely attained with a palatal piece to which is attached an outside metal loop.

c) There are also times when it is desirable along with orthodontia to have the palatal piece carry a bicuspid or even an anterior tooth during the time that the orthodontic care is in progress. This is often expedient.

3. In the retention of cases, after another apparatus has been removed, the thermoplastic appliance is not at present excelled.

4. It has been found advisable to use chiefly all-metal appliances in the lower jaw.

5. The use of thermoplastic material

in denture construction was discussed in a previous article.¹

Technique for Molding Thermoplastic Material

1. Take modeling compound impression and make a stone cast.
2. Define gingival margins sharply by carving.
3. Wax section covering palate to thickness of number 7 wax.
4. Make first half of flasking.
5. Use separating material, and make second half of flasking.
6. Immerse flask in hot oil (motor oil) at 250° F. to eliminate wax.
7. Open flask and insert blank of thermoplastic material between two sheets of cellophane.
8. Heat in hot oil bath of 300° F. to soften and close.
9. Chill under tap water.
10. Open and finish down with rosebud bur and polish.

Instructions to Patient

At the first appointment the patient is instructed not to lose the appliance, to keep it in a definite place, and to wear it as little or as much as he wishes until the next appointment.

At the second appointment, usually in a week, the patient is told to wear the appliance enough so that each time he returns for a readjustment, the palatal piece will slide in and out easily, the teeth having been moved over to the adjustment. The thermoplastic palate is adjusted to fit snugly against the teeth with a barely perceptible wedging against the bicus-

¹Spear, L. E.: A New Thermoplastic Denture Technique, DENTAL DIGEST, 39:231 (June) 1933

pids and molars. This frictional retention gives way in a few days to mainly atmospheric retention and adhesion.

The patient is instructed gradually to increase the number of hours per day during which the appliance is worn. With some, this amounts to continual use, but experience indicates that this is not apparently necessary.

Adjustments

When making adjustments of the thermoplastic portion of an appliance, the amount of change is determined by the reaction of the patient. If there is too much change, the patient feels unwarranted distress or the appliance will not seat; if too little change, the patient will not feel any appreciable change. It is much better to make minor adjustments and have the patient come in more often than to make adjustments which are so uncomfortable that the patient does not cooperate.

Basic Principles

Principle A—The dimensions of a piece of thermoplastic material of suitable molding temperature can be altered with a heated instrument and the new dimensions sustained at mouth temperature.

Principle B—Mechanical devices, springs, levers, wires, and clips can be embedded easily and quickly with heated instruments in a thermoplastic foundation in such a manner that they cannot be removed unless reheated.

519 Medical Arts Building.

Intra-Oral Roentgenography of Foreign Body in Maxillary Sinus

BERNARD P. MORGENSTERN, D.D.S., B.S., M.D., New York

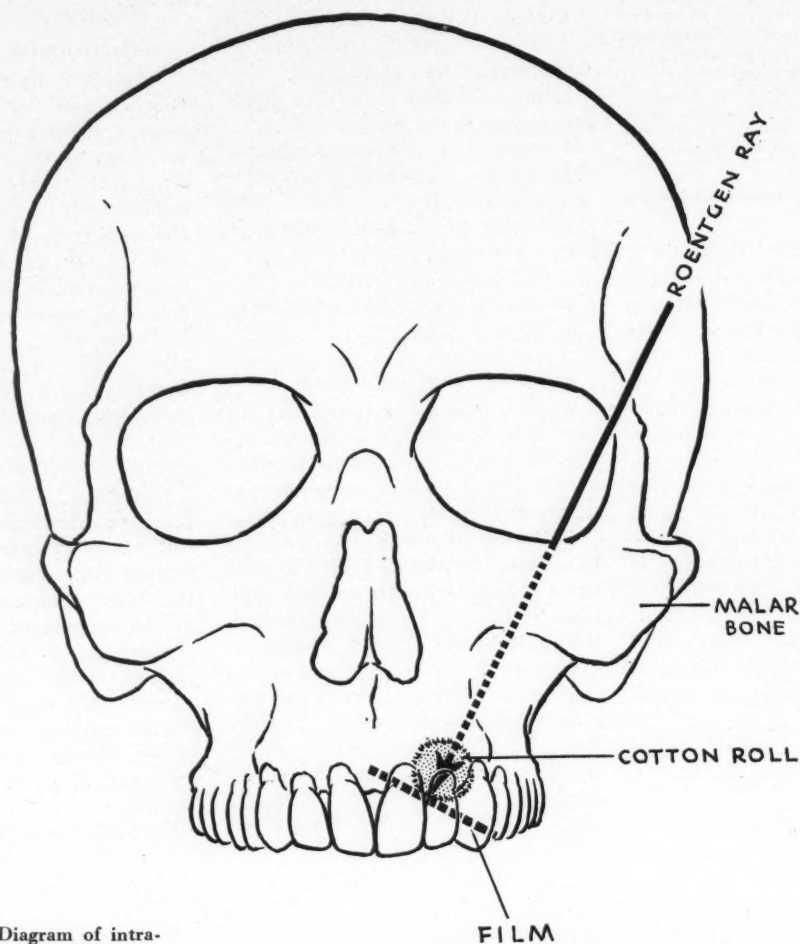


Fig. 1—Diagram of intra-oral position of film. Note direction of roentgen ray, just to inner aspect of lateral portion of infra-orbital ridge at right angle to film.

Fig. 2—Roentgenogram taken in usual manner.

Fig. 3 — Roentgenogram taken according to technique outlined. Note how much more clearly the root is outlined and also the extensive area of the sinus which is obtained on a single film.

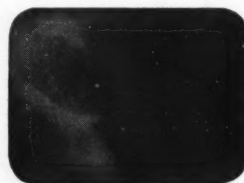


Fig. 2

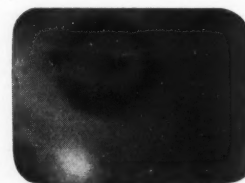


Fig. 3

THE MALAR SHADOW is the main stumbling block in intra-oral roentgenography of the maxillary sinus. If there is doubt as to whether a root has been forced into the sinus a clear view of this entire structure is of paramount importance. With the ordinary intra-oral view the malar shadow often superimposes itself immediately over the involved root, and a clear-cut film is not obtained. With the technique described here, it is possible to obtain a clear-cut film.

Technique

1. The film is placed in the mouth over a cotton roll. One edge of the film extends to the midline and the other touches the lingual cusps of the bicuspids and molars (Fig. 1).

2. The patient holds the film gently, without bending.

3. The ray is directed to the inner aspect of the lateral portion of the infra-orbital ridge at right angles to the film. If this angulation cannot be obtained, the film may be tilted verti-

cally or horizontally, as required, to obtain this ideal relationship (Figs. 2, 3, and 4).

240 East Seventy-Ninth Street.

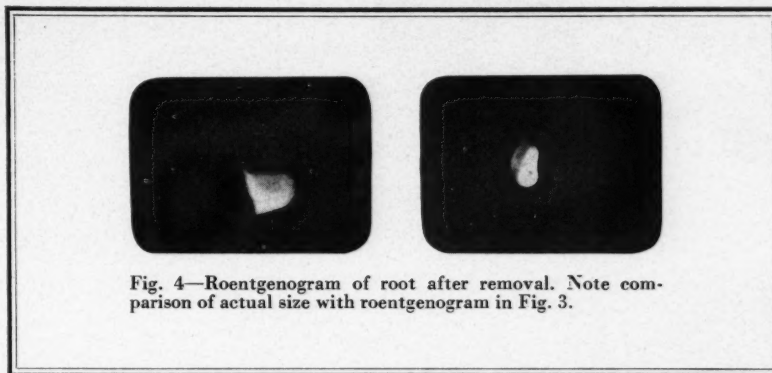


Fig. 4—Roentgenogram of root after removal. Note comparison of actual size with roentgenogram in Fig. 3.

A STOP SIGNAL FOR THE CHILD PATIENT

(Continued from page 380)

signal change simply by the sound of the switch. For this reason a switch with a loud click was chosen. In this way cooperation between the patient and the dentist is maintained, and confidence replaces fear and friction.

Most children are determined to hold on to the green as long as pos-

sible, making drilling a sort of game, but as a precaution against any pre-pain clicking, the thumb switch was adjusted to have enough tension to defeat any such tendencies. A definite effort must be exerted to make the lever snap. "That little traffic light" appeals to many adults likewise in the effort to endure pain.

A former 10 year old troublemaker, said, "Gee, this is great. Now I don't have to yell anymore." And a little girl commented that it gave her "something to hang on to," which seems to point to the practicability of this device.

207 Elm Street.

ERRATUM

In the July, 1938, issue, pages 308 and 309 of the article on WAXLESS CAST CROWN RESTORATION by James S. Simon-ton, D.D.S., two errors occurred. Figs. 1 and 3 were reversed; that is, Fig. 1 should have been designated Fig. 3, and Fig. 3, Fig. 1. The legend to Fig. 4 should have read: "Place crown impression from Fig. 1 over cast from Fig. 3 as shown in Fig. 5."



Fig. 1—A, Pre-operative model; B, Immediate postoperative model; C, Postoperative model; pink denture in place.

Correction of Marked Maxillary Protrusion with Immediate Denture

GEORGE A. MORGAN, L.D.S., D.D.S., Toronto, Ontario, Canada

ALTHOUGH ALVEOLECTOMY was performed to some extent as early as 1850, it is only in the last decade that surgical preparation of the mouth for the immediate reception of artificial dentures appears to have been extensively practiced.

Fundamental Principles

1. A large and firm area is needed upon which the base of the denture may rest.

2. As great a transverse dimension from buccal wall to buccal wall should be had as it is possible to maintain after the loss of the teeth.

3. If possible, the ridges should be high enough to leave sufficient space between the opposing arches when in proper occlusal relation, and directly above the summit of these ridges, for the arranging of the artificial teeth together with their investing baseplate.

4. The crest of the ridge should be as broad as possible, gracefully rounded at the lingual and again at the labial margins.

5. A desirable condition is the direct opposition of the upper arch to

the lower arch in the buccal region and somewhat overhanging the lower arch in the labial region.

Report of Case

History and Appearance—A woman, middle aged, was subject to frequent embarrassment because of extensive protrusion of the anterior maxillary teeth, complicated by gingival cavities. The lip, moreover, was elevated to such an extent that the opening and closing of the mouth made the patient's appearance unsightly.

Roentgenographic Examination—Roentgenograms revealed malformed roots and abnormal length of the upper anteriors.

Inasmuch as the patient was not actively engaged in business, and, therefore, the time of immediate denture insertion was not so important, it was thought that a better and more accurately fitting denture would be obtained if completed in the manner about to be described.

Operative Procedure—1. Pentobarbital sodium ($1\frac{1}{2}$ grains) was administered.

2. Under local anesthesia an inci-

sion was made around the gingival margin of the teeth, extending along the alveolar ridge distal to the region of the first molar, allowing the mucoperiosteum to be stripped away from the bone on the labial and lingual aspects with a suitable blunt instrument.

3. Buccal bone was then removed by means of the Gardner mallet-and-chisel technique.

4. The teeth were extracted along with all infected bone or residual areas and infected granulation tissue.

5. Sufficient buccal and labial bone was then removed to restore the lip to approximately normal relationship.

6. Interproximal tags were removed with scissors, and buccal-lingual flaps were sutured with 000 catgut.

7. At this point a careful maxillary impression was taken and sent to the dental laboratory with instructions to pour a plaster model and mold a baseplate to it.

8. To insure comfort around the periphery of the baseplate splint, a thin layer of wax was spread over the area.

9. A sprinkling of denture powder

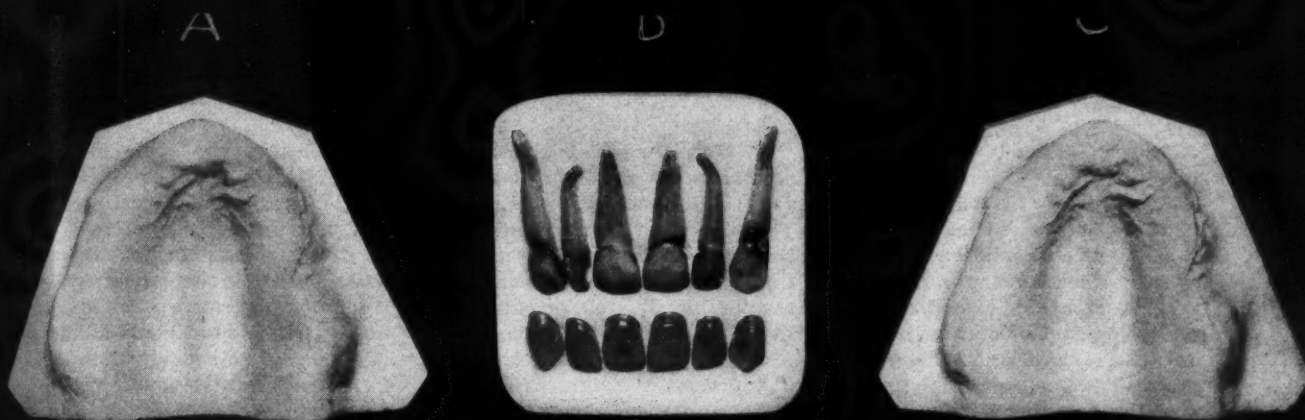
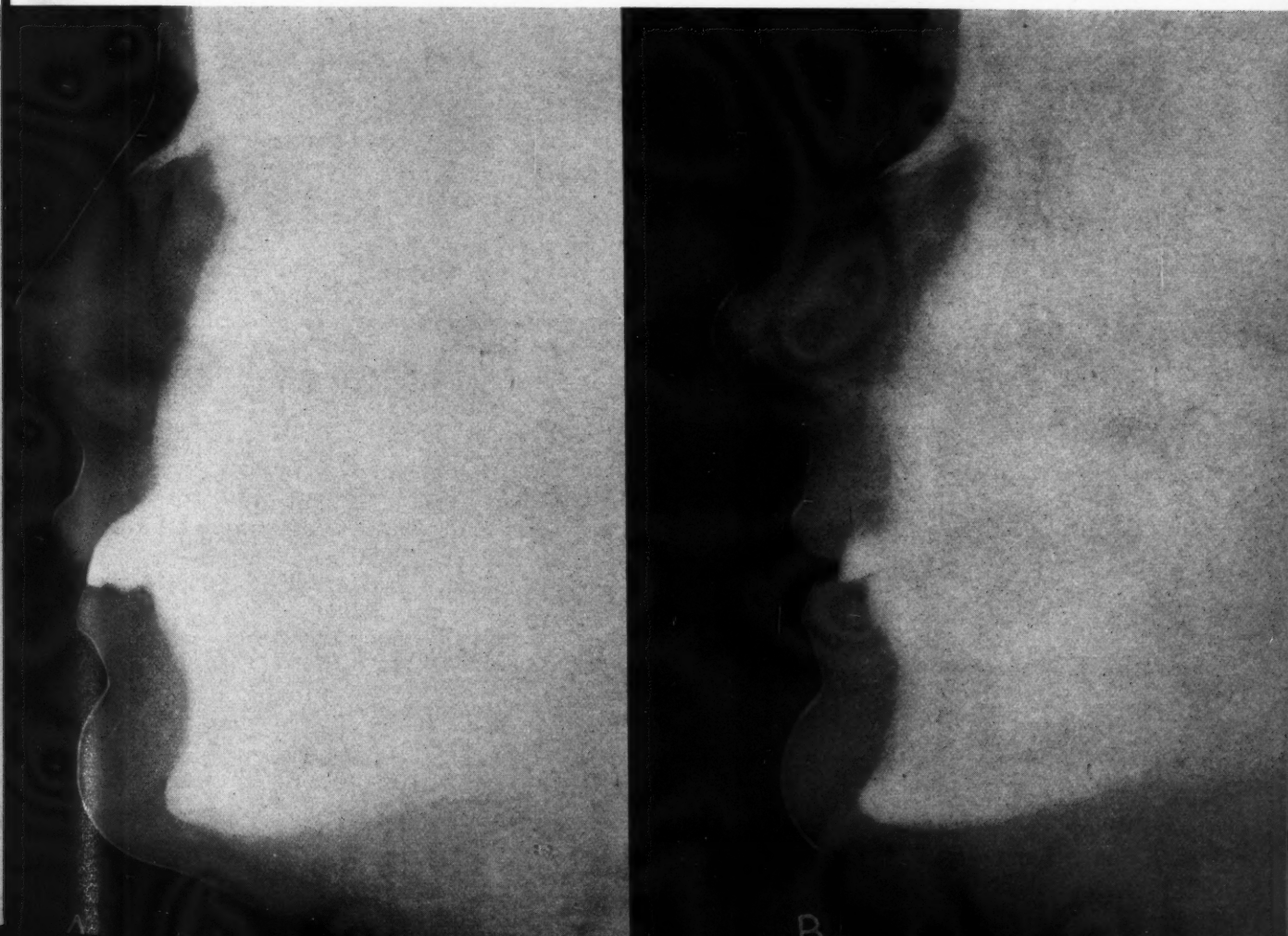


Fig. 2 (top)—A, Immediate postoperative model with base-plate splint; B, Teeth removed and artificial replacement; C, Immediate postoperative model with vulcanite bite-block.

Fig. 3 (bottom)—A, Pre-operative profile roentgenogram; B, postoperative profile roentgenogram.



on the palatal side of the splint aided retention.

The purpose of the splint was threefold: (a) Control of hemorrhage and swelling; support of the bucco-lingual alveolar occlusal margins in apposition; (b) promotion of more rapid regeneration, and support to the blood clot; and (c) promotion of a sense of security, owing to protection of the wound and enabling the patient to take warm fluids without discomfort.

10. When the patient returned approximately twenty-four hours later a vulcanite bite-block was inserted. This block with occlusal markings of the lower teeth served to maintain the approximately correct chin-nose relationship, thus relieving any undue stress on the temporomandibular fossa and the muscles associated with its function.

11. The patient was instructed to read aloud as much as possible dur-

ing the next twenty-four hours. At the end of this period, or forty-eight hours after the removal of the teeth, a new pink denture was inserted.

Postoperative Treatment—Ice packs followed in twelve hours by heat reduced postoperative pain and swelling. Aspirin and codeine in combination were also satisfactory in the control of postoperative pain.

2 Bloor Street, East.

Announcement of Books Received

TEXTBOOK OF PERIODONTIA (*Oral Medicine*), By Samuel Charles Miller, D.D.S. with an Introduction by John Oppie McCall, A.B., D.D.S., and a Chapter on "The Endocrine System in Periodontal Disease," by Felix Boenheim, M.D. (Also Special Contributions by Arthur D. Black, D.D.S., M.D.; Olin Kirkland, D.D.S.; A. W. Ward, D.D.S.; and G. Farrell Webb, D.D.S.) Philadelphia, P. Blakiston's Son & Co., Inc., 1938.

A TEXTBOOK OF BACTERIOLOGY FOR DENTAL STUDENTS, Second Edition, By Arthur Bulleid, L.R.C.P. (Lond.), M.R.C.S., L.D.S. (Eng.), St. Louis, The C. V. Mosby Company, 1938.

HODGEN-SHELL DENTAL MATERIALS, By John S. Shell, B.S., M.A., St. Louis, The C. V. Mosby Company, 1938.

A SCRAPBOOK OF DENTAL INFORMALITIES, By Herbert Ely Williams, D.D.S., Asbury Park, New Jersey, Schuyler Press, July, 1938.

The Editor's Page

AT A RECENT CONFERENCE called by The Good Teeth Council for Children the subject of dental caries was discussed in all its known ramifications. There was unanimity of opinion among the participants in the discussion that the nature of the caries lesion should be better understood. Histologic, chemical, and bacteriologic methods alone will not give all the required information. Clinicians must aid in the investigation.

We have all recognized various types of lesions, classified under the general term of caries. There is a malignant, rampant form of tooth decay which is usually leathery and soft and yellow. There is at the other extreme the hard, black, dense type of caries which represents a slower process of disintegration. Between these two extremes there are many other clinical forms. We do not know enough about the nature of the attacking agents or of the index of response to indicate precisely what produces these different clinical types. Our clinical experience confirms the fact that a carious process may be measurable over a period of several years or it may be of a malignant form in which degeneration has occurred within a period of several months.

Biologists concerned with dental tissue have proved that the response in a tooth to somatic irritations is prompt and often immediate. Drugs introduced into the circulatory system may be demonstrated within the dentine in a short time. This proves not only that the dentine is vascular but that it is quick to be influenced by circulatory changes. We have gained the clinical impression, many of us, that dental caries does show some peaks and valleys of recurrence and remission; that a person may enter an episode of susceptibility or one of immunity, not because he has changed his dentifrice but because something has occurred in the metabolic picture. Dental caries is not self-correcting or self-regenerating, and thus differs from most other pathologic processes. It is a cumulative disease which if left untreated grows progressively worse.

When we succeed in conveying an idea of the complexity of dental caries to our patients, we will spare ourselves many of the misunderstandings that arise in dental treatment. When we complete an inlay or a bridge, for

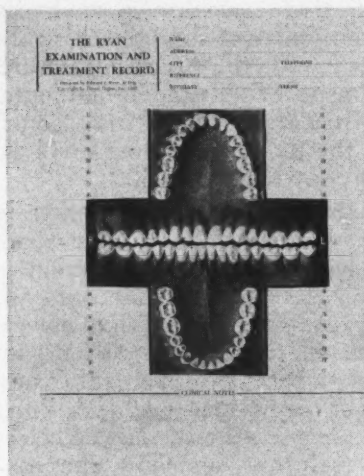
example, we have done nothing, regardless of how well the operation is performed, to change the index of susceptibility of that person to the disease that destroyed the tooth structure. There is no element of finality in a dental operation. Recurrence of disease may come; other surfaces of the tooth than those involved in the restoration may be attacked.

Recently a case came to my attention in which a man who was using an eight-tooth fixed bridge had had no dental examination or attention for five years—not that he could not afford it but because he thought that once a bridge was made, all trouble was at an end. He had lost the teeth because of rampant caries. The construction of the bridge could do nothing to change his caries diathesis. Nevertheless the patient did feel that somehow the construction of the mechanical appliance was more than an end in itself. During his long moratorium from dental treatment, caries attacked other teeth and other surfaces of the teeth that were acting as abutments to the bridge.

In our own minds we should begin to refer to dental caries as a disease entity that varies in intensity, in virulence, and in the resistance of the host. Both local and general factors are involved in resistance. Dental caries likewise has familial characteristics and racial groupings. There are families seen in practice who have typical clinical pictures of dental disease throughout their members. Then there are the environmental factors, chief of which is the chemistry of the saliva that bathes the teeth. Saliva can be a protective fluid and, if its chemistry is altered, it can be a destructive influence. Like in every other morbid process, each person responds differently to his caries. The amount of tooth involvement frequently has no relationship to the index of pain produced. In one person total destruction of the crown of the tooth occurs without pain; in another, an occlusal defect that has just penetrated the dentine may be extremely painful. Pain response which is subjective varies as does the lesion of caries which is objective.

If we can convince patients that caries is a disease, not merely a physical destruction of tissue, we will secure greater cooperation and understanding in our attempts at treatment.

Suggestions for the use of The Ryan Examination and Treatment Record



TYPES OF PENCILS

Yellow	Mongol No. 867
Gray	Mongol No. 819
Red	Mongol No. 866
Blue	Mongol No. 865
Yellow	Castell No. 40
Gray	Castell No. 57

Mongol pencils are made by Eberhard Faber; Castell by A. W. Faber.

SUGGESTED SYMBOLS

Each dentist may develop his own system of symbols but the following specific markings have been found simple and adequate:

Soft Lead Pencil—(a) Porcelain fillings are indicated by a pencil outline.

(b) Porcelain jacket crowns and bridges are shown by cross-hatching with lead pencil across the corresponding tooth or teeth on the chart.

(c) Missing teeth are blocked out with a soft lead pencil.

(d) Abrasions are represented with soft lead pencil.

Blue Pencil—(a) Cavities are indicated with blue pencil.

(b) Advisable restorations are demonstrated with blue pencil.

Red Pencil—(a) A red line is used to indicate the presence of a root canal filling.

(b) A red outline shows the presence and position of an impacted tooth.

(c) Red pencil is used to represent pulp involvement.

(d) A red "X" is made across a tooth to indicate that its extraction has been advised.

(e) Pyorrhea pockets are represented in red along the crest of the alveolar ridge (and a notation is made at the bottom of the chart if extensive gingivitis is present).

1. The Ryan Examination and Treatment Record may be had in pads of fifty charts each. These pads fit conveniently in a standard 9½ by 11½ inch loose-leaf notebook which may be purchased at a five-and-ten cent or variety store.

2. Alphabetical dividers may be made by using a ten cent package of plain white paper of the same size as the charts with holes punched at the same distances, and a fifteen cent box of alphabetical index tabs. The holes are reinforced.

3. It is a good plan to keep a blank sheet of paper between the charts to prevent possible smearing of crayon or pencil markings; but this is not essential.

4. A fresh pad of charts may be kept ready for use in back of the notebook of active records.

5. The various types of restorations and their location in a particular mouth are shown with the use of polychrome pencils—gray, for amalgam; deep yellow, for gold. White pencil does not show up very well; consequently, porcelain may be indicated with soft lead pencil outlines or cross-hatching.

6. Spaces provided beside the quadrants with numbers corresponding to the teeth permit special notations concerning each tooth. As treatment progresses the blue markings indicating needed dentistry are erased, and the nature, location, and date of placement of each new restoration are recorded. Additional clinical notations are made if necessary in the space provided for that purpose below the chart itself.

7. It is essential to be consistent in any system of symbols or markings developed. To insure consistency, it is well to have a key page in the front of the notebook.

8. The exact record of conditions found in the average patient's mouth at the original examination can be completed in fifteen or twenty minutes, and the time it takes to keep a chart up to date is negligible.

9. When a chart is completed the necessary data (name, address, telephone, reference, estimate, and terms) are typewritten in the spaces provided at the top of the record. The date of the original examination is also recorded in order that the treatment dates (as shown in the quadrants at the sides of the chart) will be recognized as subsequent to the date of the original examination.

10. Provision is made on the back of the chart for bookkeeping records. This is merely for the convenience of dentists who wish to keep all records together, but may be ignored by dentists who have a satisfactory book-keeping system which they need not and do not wish to discard. The Ryan Examination and Treatment Record may be employed as an additional or supplementary record to any established method of record-keeping dentists may have.

11. Although the Ryan Examination and Treatment Record was designed for the dentist's own convenience in his practice, the charts have been found to have a definite informative value in explaining conditions to patients. The charts are also particularly helpful in reporting dental conditions of patients to cooperating physicians.

THE DENTAL DIGEST, 1005 LIBERTY AVE., PITTSBURGH, PA.

Here is the dollar. Please send me a pad of 50 Ryan patient charts.

Dr. Address
City State

(Or please use coupon on page 406)

If you have not ordered your charts, clip the coupon, and mail with a dollar bill.

OIL LAMPS vs. *Electricity*



VITALLIUM

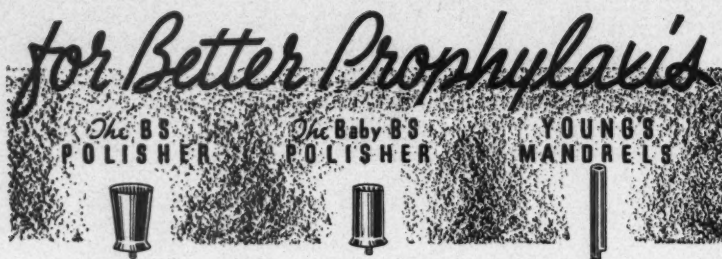
The dental profession has universally recognized that Vitallium excels other metals in prosthetics as palpably as the modern Mazda does the antique oil lamp. Vitallium is the **ONLY** true Cobalt-Chromium alloy developed and used for cast full and partial dentures. Specify Vitallium for up-to-date dentistry.



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DEALER

NOTES ON THE

Cuff

August 1: Medicine has finally been placed in the category of Big Business, not only big but diabolic Big Business, for today the Department of Justice brought action against the American Medical Association for violation of the Anti-Trust Laws. The traction barons and the pillagers of the poor have traditionally been represented as corpulent persons with diamond stick pins gleaming from their neckties. Among these antisocial people the cartoonists will probably add another figure—the man in white with the stethoscope dangling from his ears, ready to pounce upon and exact his tribute from the poor. Fortunately, the large mass of people do not associate physicians with this rôle. There are fakers and gougers among them, to be sure, as there are among dentists and among every group, but of all classes in the population, none is more humanitarian than the physician.

It is to be hoped that when this case comes to trial, if it ever does, the American people will be correctly informed that the action is against certain attitudes of an organization, the American Medical Association, with respect to group care, and not an action directed against physicians as a whole in their dealings with private patients. The action of the Department of Justice was primarily intended to restrain the American Medical Association from interfering with group health associations.

August 3: An extremely interesting reprint from a dental paper has come to hand. It is an article written by a woman who describes herself thus: "I am a layman whose hobby is prevention and correction of malocclusion without wires, without cost." Her method apparently is to correct thumb-sucking, mouth-breathing, and other pernicious functional habits. There is nothing new about this idea. Myofunctional therapy has been advocated by Alfred Paul Rogers

(Continued on page 394)

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for years. Every textbook on orthodontia gives detailed muscular exercises that are helpful in the correction of some types of malocclusion.

So long as the writings of this person are confined to a dental publication, they can do no harm, but should an inaccurate and wild paper, such as *Physical Culture* (which will be discussed next), get hold of the ideas expressed by this woman, the American public might soon think that orthodontic appliances were not only unnecessary but positively instruments of malpractice.

The proponent of this form of orthodontic treatment says that she has records of cases that she has corrected. We presume that she has objective evidence, such as photographs and casts, and if she has, it would be well for her to present her evidence to a group of open-minded dentists.

Unquestionably the argument that orthodontia should be extended to the masses is a sound one. Orthodontists themselves admit that their services are more or less in the luxury class and should be extended to millions of other children. But orthodontia cannot be practiced on a mass production basis. It requires long years and months of treatment and superior technical skill applied to individual problems.

August 5: Macfadden of the terrific torso is at it again. This time he purports to expose in his big-muscle publication, *Physical Culture*, the dental fee racket. The article is presumably written by a dentist who for fear of reprisals from his colleagues calls himself "Doctor X." Here are a few of the weirdities expressed by Doctor X:

1. "Seventy-five per cent of our fellow citizens never see a dentist at all in spite of free clinics to reduce the cost of dentistry."

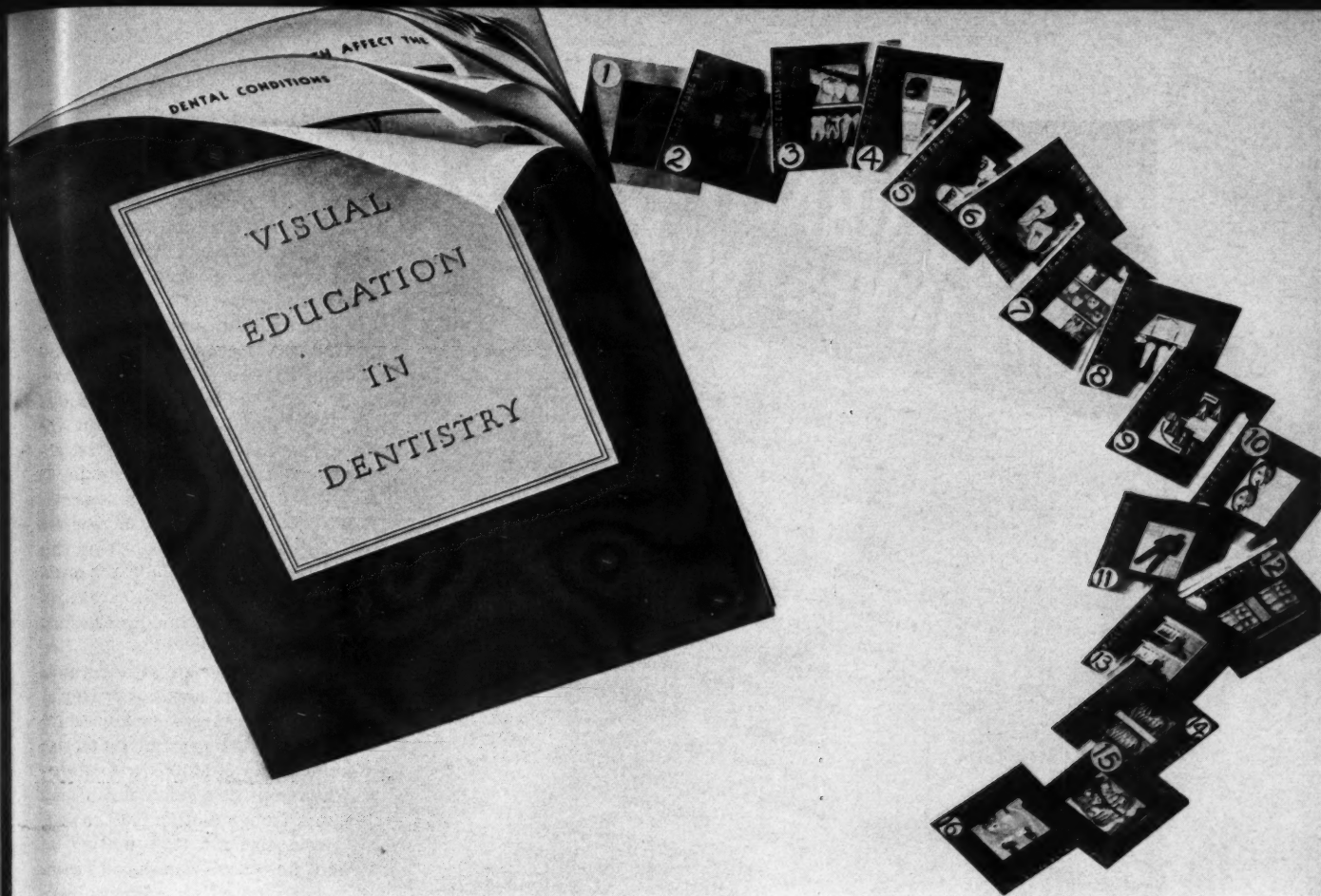
Comment: Figures from the United States Public Health Service indicate that there are only 19 per cent of the American people, as shown in the National Health Survey in Detroit, who have never seen a dentist.

2. "There is room for 668,000 dentists in the United States."

Comment: That would be to increase the number of dentists ten times.

3. "Many of us split fees; many receive 'kick-backs' from X-ray laboratories and various specialists to whom

(Continued on page 396)



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| 5. "One Rotten Apple Can Spoil a Bushel" | 13. "Things Are Not Always What They Seem . . ." |
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we refer our patients."

Comment: I have had occasion to refer dozens of patients to oral surgeons, orthodontists, roentgenologists, and other specialists and have never been offered a "kick-back" nor do I know any colleague who has accepted one. I know of only a few men in a metropolitan practice who have this reputation, which is just that, a reputation; it has never been proved. As an officer for four years in one of the largest dental societies in the world, no single case of a dentist accused of fee-splitting ever came to trial. There were no anonymous complaints; no letters were ever received from members of this society on this subject. The American public is probably safer with respect to dental referrals than in any other professional pursuit.

4. Doctor X mentions the ceramic experts who think nothing of charging a motion picture star "\$10,000 for matching one of her exquisite teeth."

Comment: I would like to see *Physical Culture* print a photostatic copy of a check from a motion picture star, or anyone else for that matter, in payment for a porcelain jacket crown which represented an amount more than \$2,000—and that is allowing Bernarr Macfadden plenty of room for chest expansion.

5. Doctor X in his best scientific manner gives the following case report:

"One friend of mine, a newspaper man, had a very expensive job done for him before he went on a trip that took him away six months from civilization. He had his mouth nicely cleaned and his teeth nicely filled.

"The job seemed A-Number-One. He cheerfully paid his bill for three hundred dollars, feeling sure that his teeth would give him no trouble. But there must have been something wrong with the material. While he was far away, something happened.

"It seemed," he said to me later, "as if my teeth exploded."

Comment: We hope that the American Dental Association, after reading this scientific report by Doctor X and Mr. Macfadden will immediately engage some national detective agency, or perhaps the Department of Justice, to search for high explosives hidden in dental materials and to ferret out the dentists who are practicing sabotage on newspaper men sent to foreign lands.

(Continued on page 398)

Normalcy FOLLOWING Injections

No extreme stimulation of
vagus center thus minimiz-
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tients.

Better blood flow to field
improving post-operative
picture in exodontia.

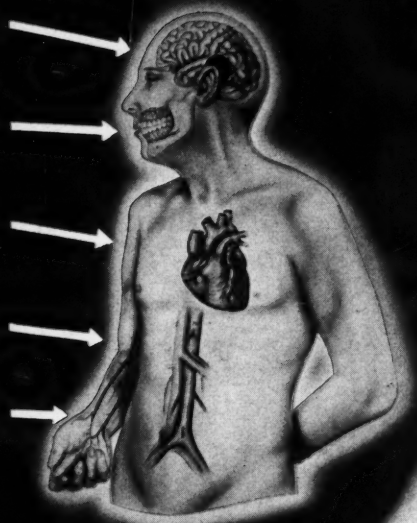
Minimum action on heart.
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August 9: A credit to the dental profession is Francis L. Golden, formerly secretary to Governor Hoffman of New Jersey. His latest achievement is the co-authorship of a new play, "Anybody's Game," presented at the Hampton Playhouse in Bridgehampton, Long Island on August ninth. Colleagues in the profession will be earnestly hopeful that the play will be produced on Broadway.

August 16: Reporting the proceedings of the National Health Conference in Washington before the North Side Dental Forum of Chicago. This dental society has the unique idea of presenting to their essayists a scroll of appreciation. It is too bad that more dental societies do not make such simple courteous gestures to essayists. Harry Denen, the president of the North Side Dental Forum, should be congratulated on his originality.

Jim Leonard, Editor, *Iowa State Dental Bulletin* drove in from Davenport to attend this session.

August 19: Many letters have been received from readers regarding the report of the National Health Conference as published in this department last month. This rather heavy response suggests that dentists are interested in matters other than techniques. In fact, Robert Jasmann of Monona, Iowa says, "To me it seems of more importance, for the time being, than the other excellent contributions of *THE DIGEST*," and asks to be assured of reports on continued developments. This assurance is readily given. "Socialized medicine (dentistry)" says Laurenz Harris of Chicago, "is where President Hoover said prosperity was so long, 'just around the corner.'" Comments such as this bear evidence that dentists are conscious of the flux and change in emphasis in dental economics. Moreover, dentists are aware that medicine is more recalcitrant in this regard than they are: "I would not be surprised," E. R. Stealy of Shenandoah, Iowa, predicts, "to see some of the medical fraternity sit up and take notice, and incidentally step on or at least step at you for your frank remarks." Jacob Feinman, D.D.S. and L.L.B. of Staten Island, New York regretted that the report was not given "editorial caption" because it might have been overlooked. Staff-written material must defer to contributors' articles and be placed in

(Continued on page 400)

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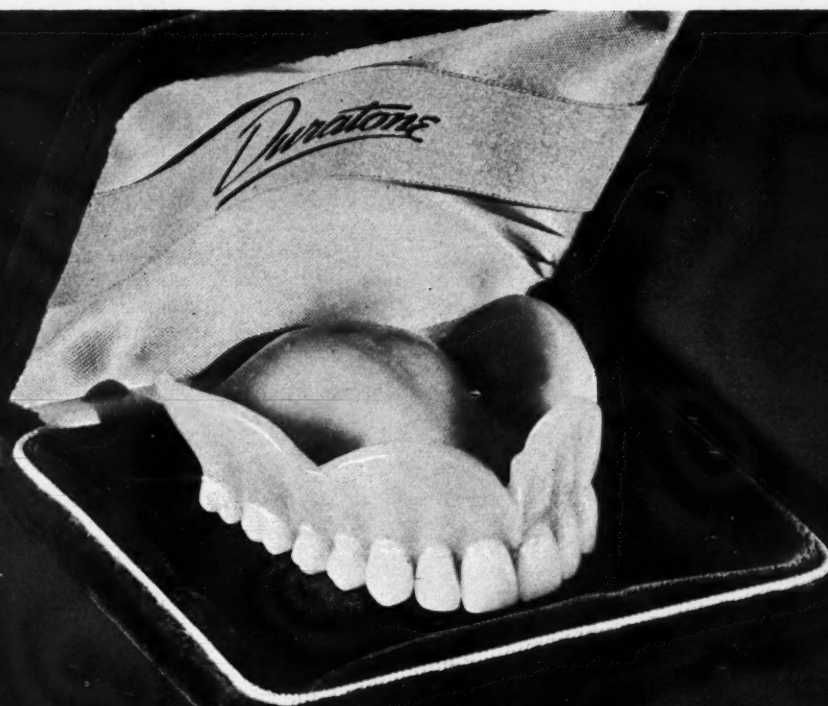
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the back of the magazine where it is hoped readers will learn to look for it. Our authors are entitled to preferred position. The comment of J. O. Lief of New York, if true, represents a journalist's fondest hope realized: "good reporting, quick condensation, and sharp characterization." Many dentists do not accept the attitude toward the distribution of dental care, held by some of the dental politicians, observed Alfred T. King of Chicago, that "Grandpa's way is best."

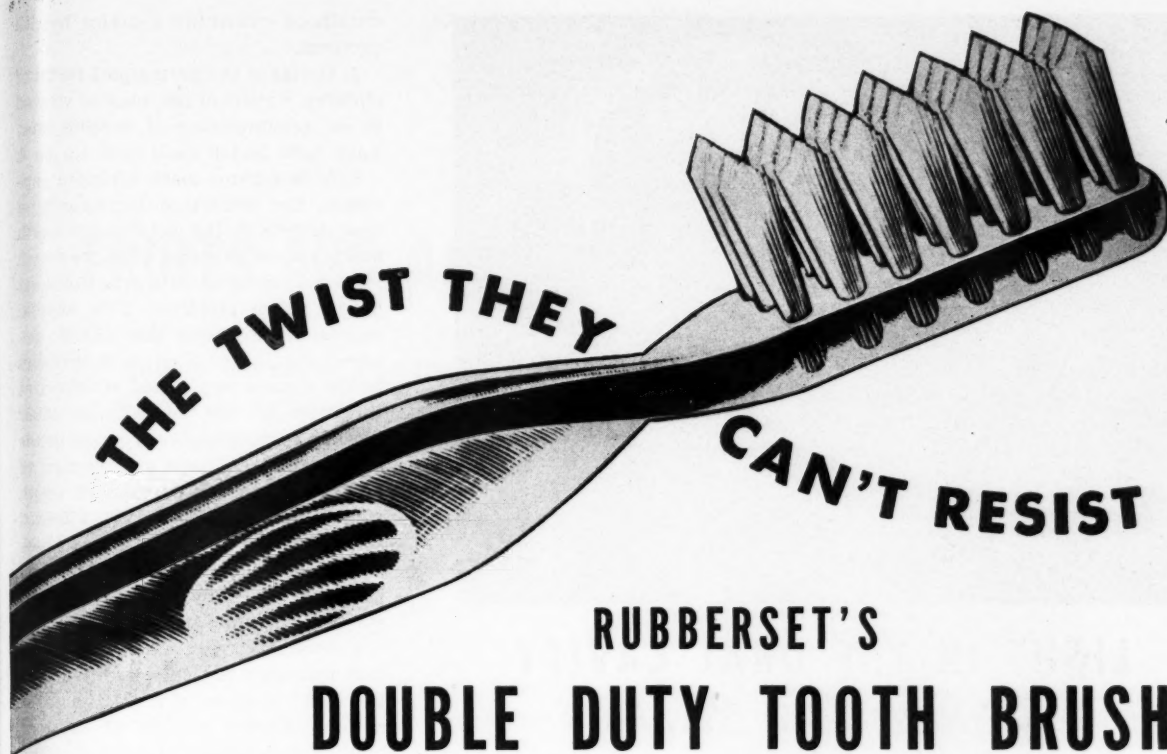
It is gratifying that John Oppie McCall, Director of the Murry and Leonie Guggenheim Dental Clinic of New York, found the Health Conference report to be "thorough" and "easily readable." Likewise, it was interesting to have the information from William R. Davis, Secretary-Editor of the Michigan Department of Health, that the report "coincided very well with the discussion of this meeting which I recently heard given by Doctor Sinai of Ann Arbor." (This reference is to Nathan Sinai, co-author of THE WAY OF HEALTH INSURANCE.)

August 22. Two recent publications on dental caries, released by the United States Public Health Service, are condensed herewith: The first, STUDIES ON DENTAL CARIES: 1. Dental Status and Dental Needs of Elementary School Children, is a report of a study made in Hagerstown, Maryland among 4,416 elementary school children. The results indicate that a redistribution of dental services is essential if school children, representing about 15 per cent of the population, are to receive adequate dental care. The dental needs for both dentitions were found to include approximately 10,000 deciduous and 8,000 permanent teeth with unfilled cavities. Defects in these 18,000 teeth affect approximately 21,000 deciduous and 12,000 permanent tooth surfaces. In addition, 7,745 permanent tooth surfaces have been lost because of severe caries. All except a small portion of a representative elementary school population show attack by caries in the permanent teeth; approximately three fourths of all teeth attacked show no objective evidence of treatment.

An analysis of the data gained in the survey indicated the following to the investigators:

1. Defects due to dental caries in

(Continued on page 402)



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Children will be particularly delighted with the different twist of the RubberSet's Double Duty Tooth Brush handle. This will help maintain their interest in regular care of the teeth and gums.

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In both adults and children, the small RubberSet brush head reaches spaces hard to penetrate to clean all tooth surfaces. Fine, resilient bristles add to the cleansing efficiency.

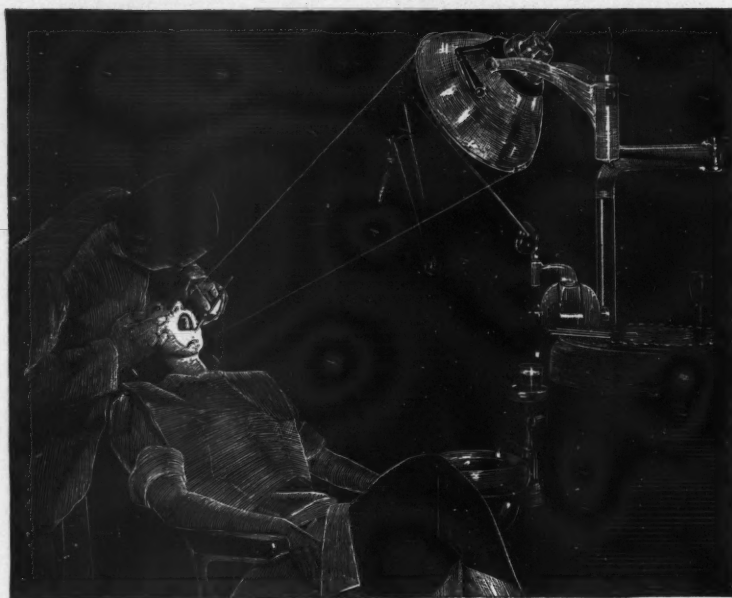
The handle twist of RubberSet makes almost automatic correct placement of brush for proper tooth cleaning and gum massage. Smooth level of the bristle knots insures safety. The non-slip handle provides a firm grip for better manipulation.

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THE DENTAL DIGEST

1005 Liberty Ave.

Pittsburgh, Pa.

childhood constitute a major health problem.

2. Caries in the permanent teeth of children, 6 years of age, may be viewed as an accumulation of *defects* that have been added each year up to 6.

3. 5,859 carious tooth surfaces represent the estimated increment of new defects in the permanent teeth which may be expected to appear each year in a representative group of 4,416 grade school children. This annual increment explains the 23,753 decayed, missing, or filled tooth surfaces in the elementary school children at the time of the survey. In other words, a representative group of grade school children have an average of nearly 5½ carious permanent tooth surfaces per child (23,753 affected surfaces in 4,416 children) and these defective surfaces are maintained and increased yearly by 1 1/3 new carious surfaces per child per year.

4. "According to the perspective of this analysis it is clearly implied that the basic problem of giving care for carious defects in the permanent teeth is the problem of caring for the yearly increments of defects... the problem of controlling the initiation of dental defects is the problem of eliminating these yearly increments."

5. "... the filling of permanent tooth surfaces is being accomplished at a rate which is about one sixth of the rate at which the defects are accruing." In the forms of fillings alone, then, approximately six times the amount of service now received by school children is necessary for an effective program of prevention.

6. "During the initial year of operation of the plan (for prevention) complete dental treatment would be supplied for all carious defects in the permanent teeth of all children in the first grade of the elementary schools. During the following year, complete care would be provided for caries appearing in the permanent teeth of all new first-grade children and for the increment of new carious defects appearing in the second-grade pupils who were treated the preceding year. During each of the succeeding third, fourth, fifth, sixth, seventh, and eighth years, accumulated defects in first-grade children entering the school population during these respective years would be treated and new increments of defects, contributed by each grade treated in

(Continued on page 404)

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The most widely recognized formula for Successful Partial Denture Construction:



earlier years, would be given dental care."

The second report issued by the United States Public Health Service concerns A STUDY OF DENTAL CARE IN DETROIT, MICHIGAN. The following were the significant facts resulting from this survey:

"1. Thirty-three per cent (22 per cent if visits for extractions only are excluded) were reported to have seen the dentist in the year before the date of the canvass.

"2. The differences with age were marked, varying from 7 per cent in the age group 3 to 5 years, to 31 per

cent in the age group 15 to 19 years, and down to 6 per cent in the age group 65 years and over.

"3. The proportion who had never seen a dentist varied from 85 per cent in the age group 3 to 5 years to 8 per cent in the age group 25 to 34 years, being 19 per cent for the whole group.

"4. The percentage of persons reported as having seen a dentist in the year before the date of the canvass (exclusive of visits for extractions only) varied greatly with socio-economic class of the household head—from 42 per cent for professional to 16 per cent for unskilled workers. For

colored persons the figure was 8 per cent. . . .

"5. Extractions showed slightly higher percentages in the lower socio-economic groups. All other types of treatment showed the reverse, especially fillings (about three times as much in professional as in unskilled). An even greater difference showed up in comparing persons in white professional families with the colored population."

—E. R. J.

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